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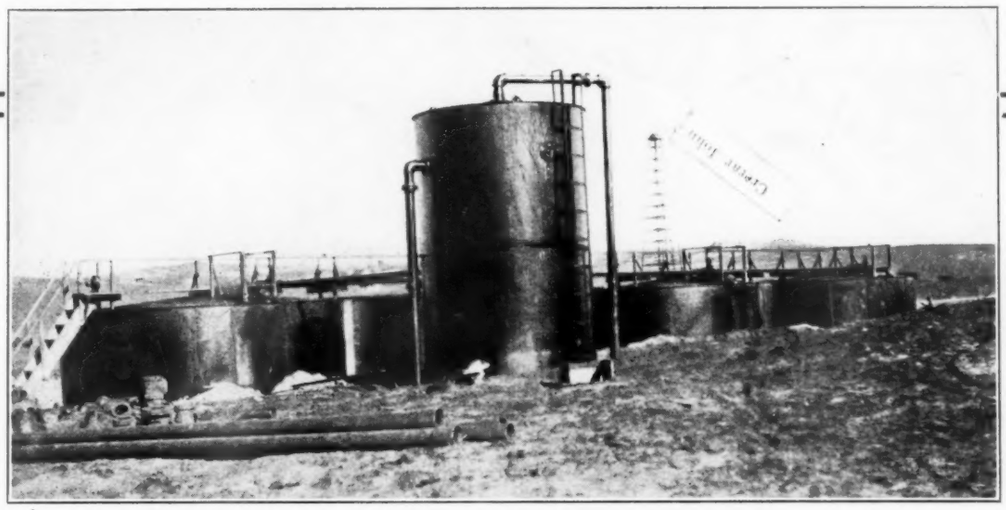
MADE OF KEYSTONE COPPER STEEL



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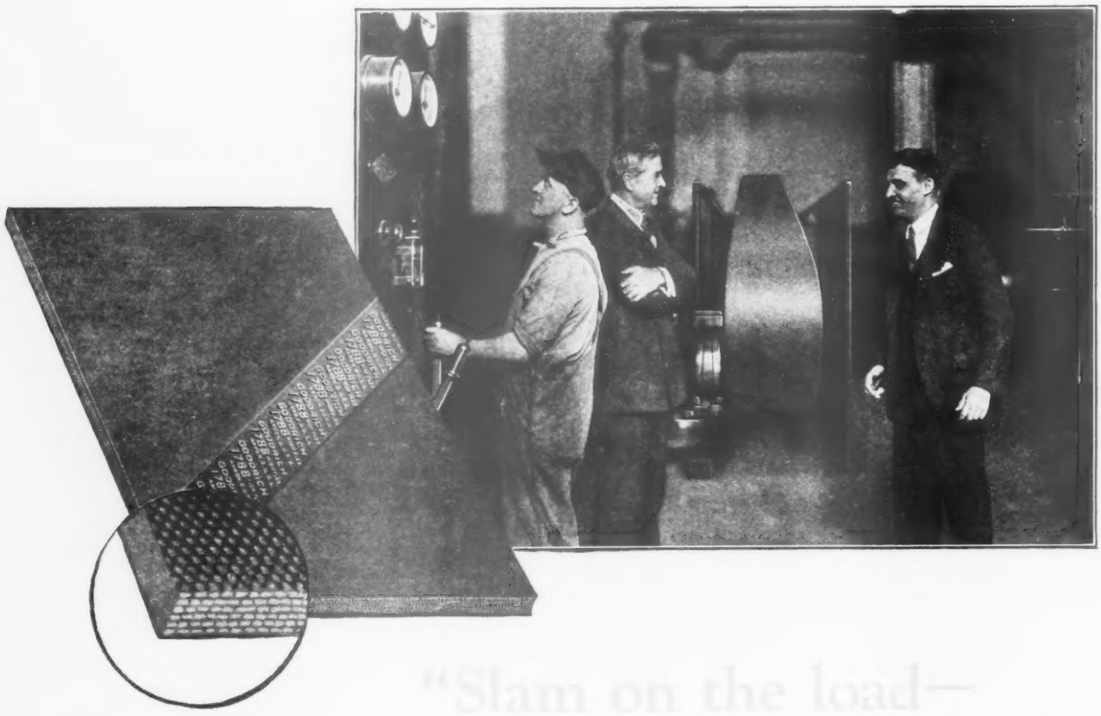
Advertisers' Index on Page 25 Table of Contents on Page 26



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The ADVERTISERS' INDEX

A

Acme Fishing Tool Co.
Ajax Iron Works 89
Ajax Rope Co. 161
Allegheny Steel Co.
Allis-Chalmers Mfg. Co. 97
Aluminum Co. of America
Amarillo Abstract Co. 161
American Asphalt Paint Co. 92
American Cable Co., Inc.
American Car & Foundry Co.
American Hammered Piston Ring Co.
American Iron & Machine Works, Inc.
American-La France & Foamite Corp. .. 45
American Manganese Steel Co.
American Radiator Co. 4
American Roller Bearing Co. 116
American Rolling Mill Co.
American Schaeffer & Budenberg Corp.
American Sheet & Tin Plate Co.
American Spiral Pipe Works
American Telephone & Telegraph Co.
American Well Works
Andrews Steel Co. 116
Arco Company, The 102
Armstrong Bros. Tool Co. 160
Association of Natural Gasoline Mfgrs.
Athey Truss Wheel Co. 94
Austin Co.
Axelson Machine Co. 73

B

B. & A. Specialty Co.
Baash-Ross Tool Co.
Babcock & Wilcox Tube Co., The
Baker Casing Shoe Co. 74-75
Baker-Lockwood Mfg. Co.
Baldwin Chain & Mfg. Co.
Barber Asphalt Co.
Barber-Greene Co
Barco Manufacturing Co. 106
Barnickel, Wm. S., & Co. 159
Barnsdall Refineries, Inc.
Barrett, G. E. & Co.
Bartlesville Supply Co. 88
Beaumont Iron Works Co.
Becker Specialty Co.
Benjamin Electric Mfg. Co.
Bessemer Gas Engine Co. 18
Bethlehem Steel Co.
Biggs Boiler Works Co.
Bignall & Keeler Machine Works 59
Blaw-Knox Co.
Bovaird Supply Co., The
Braden Steel & Winch Co. 132
Braun, C. F., & Co. 155
Bristol Co.
Broderick & Bascom Rope Co. 20
Brooks Engineering Corp.
Brown, Arthur C. 161
Brown Instrument Co. 10
Brownell Co. 160
Buckeye Traction Ditcher Co.
Buda Co.
Buffalo Bolt Co.
Buffalo Gasolene Motor Co.
Burns Tool Co.
Burt Corp.
Burt Mfg. Co. 120
Butler Mfg. Co.
Byers, A. M., Co.
Byron Jackson Pump Mfg. Co. 50

C

California Pipe Line Machine Co. .. 123
Cameron Iron Works
Cameron Tool & Supply Co., The
Campbell, J. A. 99
Canadian Pacific Railway Co.
Carbondale Machine Co.
Caterpillar Tractor Co.
Celite Products Co.
Central Alloy Steel Corp.
Central Tube Co. 159
Chain Belt Co.
Champion Machine & Forging Co.
Chaplin-Fulton Mfg. Co. 159
Chapman Valve Mfg. Co.
Chestnut & Smith Corp.
Chicago Bridge & Iron Works
Chicago Pneumatic Tool Co. 93
Chisholm-Moore Mfg. Co.
Clark Bros. Co. 69
Classified Wants 134-135
Climax Engineering Co.
Columbian Rope Co.
Columbus Forge & Iron Co.
Continental Motors Corp.
Continental Supply Co. 17-77
Cook Motor Co., The
Cooke Seal Ring
Cooper, C. & G., Co. 84
Crane Co.
Crane Packing Co.
Crescent Belt Fastener Co.
Crown Central Petroleum Corp.

D

D. & B. Pump & Supply Co.
Darling Valve & Mfg. Co.
Dart, E. M. Mfg. Co.
Davis, G. M., Regulator Co. 107
Dayton Pipe Coupling Co.

D

Dearborn Chemical Co.
De La Vergne Machine Co.
Delta Electric Co.
Detex Watchclock Corp.
Detroit Graphite Co.
Diamond Drill Carbon Co. 161
Dixon, Joseph, Crucible Co.
Donovan Boiler Works, Inc. 104
Dresser, S. R., Mfg. Co. 37
Dunn Mfg. Co. 41
DuPont de Nemours & Co., E. I., Inc.

E

Eagle-Picher Lead Co.
Eastern Torpedo Co.
Edward Valve & Mfg. Co.
Elliott Core Drilling Co.
Empire Oil & Refining Co.
Emsco Derrick & Equipment Co.
Ethyl Gasoline Corp.
Exchange National Bank

F

Fairbanks-Morse & Co.
Federal Supply Co.
Fenwick-Reddaway Mfg. Co.
Fernholtz Machinery Co.
Fisher Governor Co.
Fluor Construction Co.
Fohs, F. Julius
Foos Engine Co.
Ford Chain Block Co. 120
Foster Wheeler Corp. 114
Foxboro Co., Inc., The
Franklin Valveless Engine Co. 80-81
Frick-Reid Supply Co. 52

G

Gardner-Denver Co. 7
Garlock Packing Co. 111
Gasoline Recovery Corp.
Gaso Pump & Burner Mfg. Co. ..... Inside Back Cover
General American Tank Car Corp.
General Asbestos & Rubber Co.
General Electric Co.
Gilbert & Barker Mfg. Co. 157
Goodrich, B. F., Rubber Co. ..... Inside Front Cover
Goodyear Tire & Rubber Co.
Gott, H. P., Mfg. Co. 158
Goulds Pumps, Inc.
Graham Brothers
Graver Corp. 79
Gray Processes Corp.
Greenspon's, Joseph, Sons, Iron & Steel Co. 119
Griscom-Russell Co. 82
Guiberson Corp.
Gulf Hills, Inc. 86
Gulf Refining Co. 22

H

Halliburton, Erle P., Co.
Halliburton Oil Well Cementing Co.
Harrisburg Pipe & Pipe Bending Co.
Haynes Stellite Co. 117
Hazard Wire Rope Co.
Heppenstall Forge & Knife Co.
Hercules Motors Corp.
Hercules Supply Co.
Hercules Tool Co.
Heydrick Mapping Co. 161
Hill, Hubbell & Co.
Hills-McCanna Co. 131
Hinderliter Tool Co.
Homestead Valve Mfg. Co.
Hoover Steel Ball Co.
Hope Engineering & Supply Co. 11
Hopkins, Edwin B. 161
Hough, Charles N., Mfg. Co. 123
Hoyt Metal Co. 133
Hughes Tool Co. ..... Back Cover
Humble Oil & Refining Co.
Hunt, Robert W., Co.

I

Imperial Belting Co. 119
Imperial Brass Mfg. Co., The
Imperial Royalties Co. 161
Indiana Truck Corp.
Ingersoll-Rand Co.
International Derrick & Equipment Co. . 24
International Harvester Co. of America
International Nickel Co.
International Supply Co.

J

Jackson Engineering & Equipment Co.
Jarecki Mfg. Co.
Jefferson Union Co. 113
Jensen Brothers Mfg. Co.
Johns-Manville Corp.
Jones, S. M., Co. 13

K

Kaw Steel Construction Co.
Kellogg, M. W., Co. 48
Kelly, John Eoghan
Kelly, Kork 160
Kennedy Valve Mfg. Co. 133
Kerotest Mfg. Co. 109
Keuffel & Esser Co. 158

L

Landis Machine Co. 3
Larkin & Co.
Layne & Bowler Co.
Leader Iron Works
Leidecker Tool Co.
Leschen, A., & Sons, Rope Co.
Lientz, B. P., & Co.
Lincoln Electric Co.
Linde Air Products Co. 1
Link-Belt Co.
Longyear, E. J., Co.
Lorraine Corp., The
Lubrikup Co., Inc.
Lucey Mfg. Corp.
Ludlow Valve Mfg. Co. 129
Lufkin Fdy. & Machine Co.
Lufkin Rule Co.
Lunkenheimer Co.

Mc

McCord Radiator & Mfg. Co. 108
McEvoy, J. H., & Co.
McGregor Working Barrel Co. 159
McIntosh & Seymour Corp.
McKee, Arthur G., & Co.

M

M. & M. Mfg. Co., The
Macwhyte Co.
Madison-Kipp Corp.
Magnolia Petroleum Co.
Maloney Tank Mfg. Co. ..... Front Cover
Manzel Brothers Co.
Marion Machine Fdy. & Supply Co.
Marsh Gauge Pole Co. 160
Mason Regulator Co. 95
Master Builders Co.
Mathieson Alkali Works, Inc.
Merco Nordstrom Valve Co.
Metric Metal Works
Midwest Piping & Supply Co.
Miller Improved Gas Engine Co. 57
Mission Sales Co.
Moon Mfg. Co.
Moore, Lee C., & Co., Inc. 65-66
Moore Drop Forging Co.
Munn & Co. 161
Myers, F. E., & Bro., Co. 160

N

National Carbon Co., Inc. 1
National Petroleum Engineering Co. 161
National Supply Co. 90-91
National Transit Pump & Machine Co. .. 43
National Tube Co.
Neilan, Schumacher, & Co. 98
Newton Process Mfg. Co. 35
New York Rubber Corp.
Norris Brothers, Inc. 112
Norris, W. C.
North American Car Corp.
Northern Pump Co.
Novo Engine Co.
Nuttall, R. D., Co. 110
Nye Tool & Machine Works

O

Oakite Products, Inc. 96
O'Brien Steel Construction Co. 127
Ohio Injector Co., The
Oil City Iron Works, Inc.
Oil Conservation Engineering Co.
Oil Country Specialties Mfg. Co.
Oil Insurance Association 157
Oil Well Improvements Co., The
Oil Well Supply Co. 71
Oklahoma Gas & Electric Co.
Oklahoma Portland Cement Co.
Oxweld Acetylene Co. 1

P

Page, H. W., Inc.
Page Steel & Wire Co. 103
Paige & Jones Chemical Co., Inc. 8
Parkersburg Machine Co.
Parkersburg Rig & Reel Co. 54
Patrick, R. S. 125
Pattin Brothers Co.
Penberthy Injector Co. 124
Petroleum Appliance Co.
Petroleum Iron Works Co. 23
Pforzheimer, Carl H., & Co. 124
Philadelphia Gear Works 130
Phillips Petroleum Co.
Pittsburgh-Des Moines Steel Co. 125
Pittsburgh Equitable Meter Co. 122
Pittsburgh Pipe Coil & Bending Co.
Pittsburgh Steel Products Co.
Pomona Manufacturing Co.
Powell, William, Co.
Power Mfg. Co., The 160
Power Piping Co. 158
Power Plant Equipment Co.
Prescott Co., The
Prest-O-Lite Co., Inc., The 1
Pure Oil Co. 12
Pyle National Co.

Q

Quaker City Rubber Co.

R

Ratigan, J. P., Co.
Reading Iron Co.
Reading Steel Castings Co., Inc.
Reed Roller Bit Co. 101
Regan Forge & Engineering Co. 105
Reid, Joseph, Gas Engine Co.
Reo Motor Car Co. 118
Republic Iron & Steel Co. 115
Republic Supply Co.
Ridge Tool Co.
Riehle Bros. Testing Machine Co.
Riter-Conley Co. 161
Robinson Orifice Fitting Co.
Rock Island Plow Co.
Roots, P. H. & F. M., Co.
Ross-Meehan Foundries
Ryerson, Joseph T., & Sons, Inc. 160

S

Safety Gas Main Stopper Co. 161
Safety Pulling Machine Co.
Shaffer, J. E., Co.
Shaffer Tool Works 158
Shaw, S. F. 161
Sheffield Steel Corp. 129
Silk, W. W. 126
Sinclair Refining Co. 145
Sivyer Steel Casting Co.
Skelly Oil Co.
Skinner, M. B., Co. 158
Smit, Anton, & Co.
Smith, A. O., Corp. 9
Smith Separator Co. 130
Smooth-On Mfg. Co.
Sonner, P. J., Gas Burner Co.
South Chester Tube Co.
Southern Cornice Works
Southwestern Engineering Corp.
Spang & Co. 16
Spang, Chalfant & Co., Inc. 2
Standard Rail & Steel Co.
Stanley Belting Corp.
Star Drilling Machine Co.
Stearns-Roger Mfg. Co.
Strom Steel Ball Co.
Sullivan Co., The
Sullivan Machinery Co. 127
Sweet, Wm. J., Foundry Co.

T

Taubman Supply Corp.
Taylor Instrument Companies
Templeton, Kenley & Co., Ltd.
Texas Company, The 121
Texas Creosoting Co.
Texas Pacific Coal & Oil Co.
Texas Steel Co.
Timken Roller Bearing Co. 15
Titusville Iron Works 21
Toledo Pipe Threading Machine Co. 85
Traction Machine Co., The
Trimont Mfg. Co. 14
Trumble Gas Trap Co.
Tulsa Pipe & Supply Co. of Texas
Tulsa Sheet Metal Co.
Twin Disc Clutch Co.

U

United Air Cleaner Co.
United Iron Works, Inc. 5
United States Cast Iron Pipe & Fdy. Co.
United States Industrial Diamond Corp. .161
Universal Oil Products Co. 60-61

V

Victaulic Co. of America
Victor Balata & Textile Belting Co. ..126
Vogt, Henry, Machine Co.

W

Wagner Electric Corp. 19
Wailes Dove-Hermiston Corp.
Walsh & Weidner Boiler Co.
Walworth Co.
Warren Petroleum Co.
Washburne, Chester W. 161
Waukesha Motor Co. 47
Westcott & Greis
Westinghouse Electric & Mfg. Co. 100
West Texas Utilities Co.
Wheelton & Townsend, Inc.
Wheeling Steel Corp.
Wickwire Spencer Steel Co.
Wico Electric Co.
Widdell Engineering Co.
Williams, J. H., & Co.
Williamsport Wire Rope Co.
Williams Tool Corp.
Wilson Oil Tools Corp.
Wilson-Snyder Mfg. Co.
Witte Engine Works
W-K-M Company, Inc.
Worthington Pump & Machinery Corp. .. 63
Wright Mfg. Co.

Y

Yale & Towne Mfg. Co.
Young Engine Corp.

Z

Zero Hour Torpedo Co.
Zwetsch Heinzelmann & Co. 161

The Oil and Gas Journal

PRODUCING REFINING MARKETING

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TABLE OF CONTENTS

SPECIAL ARTICLES

Premiums Are Offered in Some Areas ... 27
By Andrew M. Rowley
No effect on general price structure expected, however. Continued curtailment of drilling will aid situation.

Important Market Changes Under Way ... 29
By C. O. Willson
Trend toward national distribution gaining impetus. Standard companies altering policy.

Pipe Liners Most Active in West Texas (With Map) 30-31
By James H. Dameron
Approximately 1,400 miles constructed this year with plans for same length in 1928.

No Evidence of Gasoline Manipulation ... 32
Report of Federal Trade Commission to Congress notes sentiment for co-operation.

Sale of Osage Tracts ... 32

Committee of Nine Asks Suggestions ... 33
By Charles E. Kern
Will be received prior to January 10; public hearings begin January 23.

Constructive Work Done by Institute ... 33
By Andrew M. Rowley

Combating Corrosion in Refineries ... 34
By Dr. Gustav Egloff
Use of chemicals, alloys, electroplating and non-corrosive metals all have merit.

Verdict for the Industry (Editorial) ... 36

Field Problems and Their Solution ... 67
Edited by Thomas F. Smiley

Fundamental Conditions in Cementing ... 85
By John F. Hough, C. E.

Government Neglects Oil Industry ... 104
By Senator Tasker L. Oddie

Superiority of Governmental Control Delusion ... 107
By P. P. Campbell

Average Tank Wagon Price in 50 Cities ... 111

California May Reach 700,000 Barrels ... 151
By L. P. Stockman
Believed likely to start new year with around 635,000 bbls. and to go to 675,000. Potential production summarized.

FIELD OPERATIONS

Texas Panhandle ... 38-115
By James H. Dameron

North and West Texas ... 39-115
By C. D. Lockwood

Late Fields ... 40

Oklahoma ... 42
By J. L. Dwyer

Kansas ... 44
By J. L. Dwyer

North Louisiana-Arkansas ... 46
By D. H. Bancroft

Southwest Texas ... 49
By B. D. Stevenson

Gulf Coast ... 51
By Neil Williams

Rocky Mountain Area ... 53
By Tolbert R. Ingram

Canada ... 55
By Victor Lauriston

California ... 56
By L. P. Stockman

Kentucky-Tennessee ... 58
By Whit

Central West ... 58
By Whit

Eastern Fields ... 62
By D. S. Wakenight

REFINING AND MARKETING

Domestic Grades of Gasoline Weaker ... 28
By W. T. Ziegenhain
Additional export purchases support high gravities. Natural gasoline prices lower. No changes in other products.

High Test Gasolines in Better Demand in Chicago ... 136
By J. B. Waldo

Cut in Fuel Contracts in East ... 137
By N. O. Fanning

Tests Show Gasoline More Volatile ... 138
By W. T. Ziegenhain
Annual survey of motor fuels in Tulsa discloses changes in distillation range.

Refining and Marketing News ... 140

Plant Operators' Page ... 141

Refinery and Crude Prices ... 142-143

Tank Wagon Quotations ... 144

Of Interest to Sales Departments ... 153

Short Talks on Specifications ... 153
By W. T. Ziegenhain

Technical Questions Answered ... 154
By Dr. C. K. Francis

Importance of Barometric Pressure ... 156
By B. M. Laulhere and W. M. Young
Necessary to make corrections in orifice meter measurements.

ARTICLES OF GENERAL INTEREST

The Advertisers' Index ... 25

Equipment and Supplies ... 64

Natural Gas Developments ... 68

Men Known in Oildom and Personals ... 70

Petroleum Statistics for October ... 72
By G. R. Hopkins

Graphic Analyses of Crude and Refined ... 76

Steel Trade Is Looking Up ... 102
By B. E. V. Luty

Classified Want Advertisements ... 134-135

Oil Securities Hold Up ... 146

Detailed Operations All Fields in November ... 162

Crude Petroleum Statistics ... 178

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Refinery Section Starts on Page 136

Premiums Are Offered in Some Areas

Highest daily average estimated production in 1926, week ended Dec. 25, 2,385,139 bbls. Lowest in 1926, January 30, 1,915,960 bbls.

No Effect on General Price Structure Expected. Continued Curtailment of Drilling Will Aid Situation

By Andrew M. Rowley

Highest daily average estimated light oil production in 1926, week ended Dec. 25, 1,797,349 bbls. Lowest in 1926, Jan. 30, 1,371,600 bbls.

While it is reported one concern at least has offered a premium of 15 cents a barrel for Seminole crude, for export, and a contract has been signed for a large quantity of Winkler County, West Texas, crude at a price 13 cents above the market, including 5 cents a barrel for loading on tank cars, oil men are not inclined to view these developments as indicating any change in the crude price situation. It is not believed prices will go any lower but the situation depends almost entirely on conditions in the Seminole area in Oklahoma: on the extent of the California development and how much production is increased from the Long Beach Field and other areas there; on the rapidity with which facilities are provided for handling and marketing West Texas production; and on crude oil imports from South America, chiefly Venezuela.

There are several potential oil pools in the Greater Seminole area which are not being developed because of the agreement of operators not to drill until conditions improve and there is a greater demand for crude. This agreement terminates January 1, but efforts are being made this week to have this time limit extended and it appears now as probable the movement for the extension will be successful. An agreement extending the period of drilling curtailment at Seminole will aid the general situation considerably.

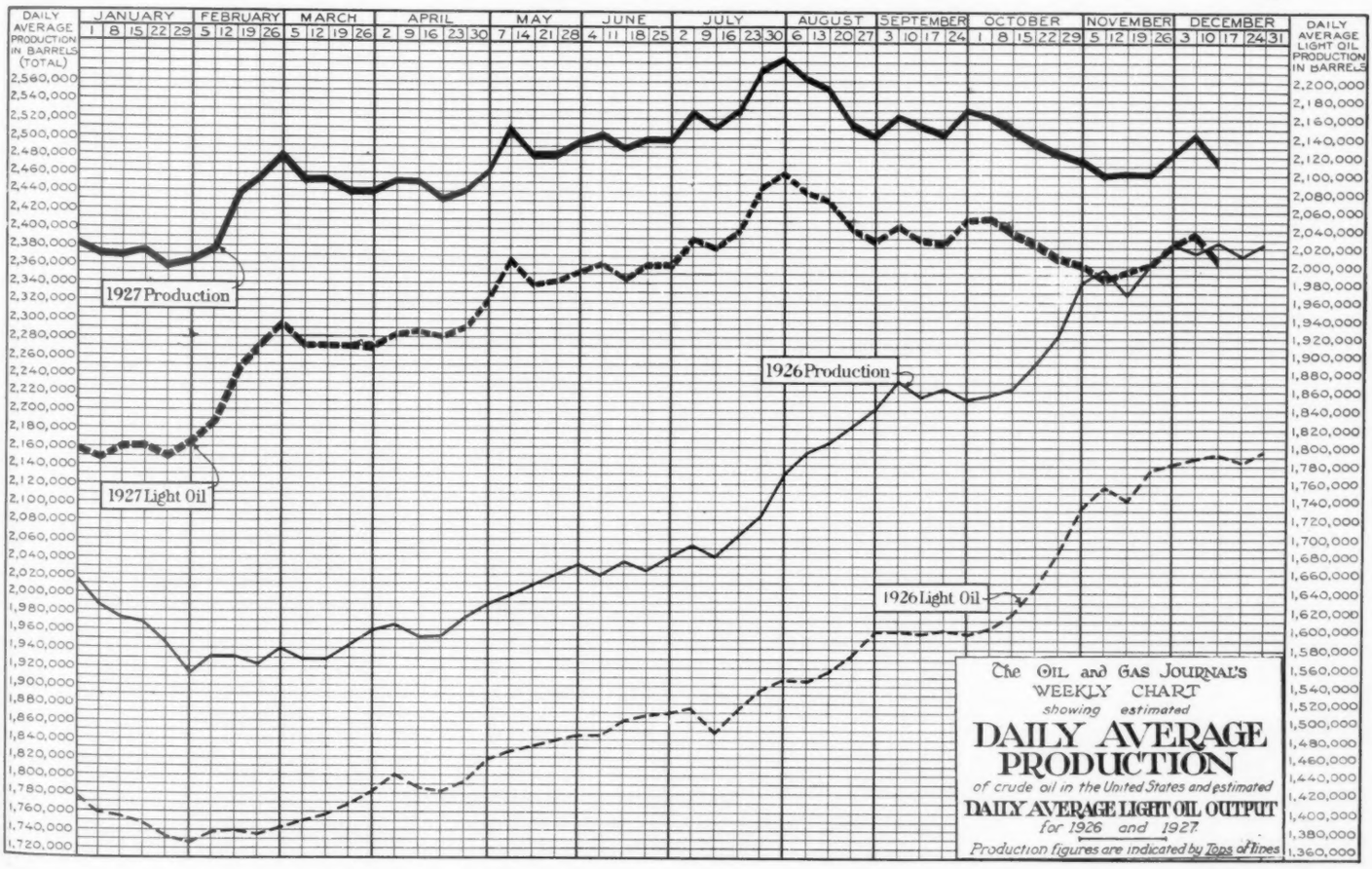
Seminole will continue its decline and substantial decreases in output there may be expected during the next few months, providing drilling is curtailed. This condition will aid the price structure of crudes containing a high gasoline content and easily and economically refined. But it must be kept in mind much of the increased production expected from California will be light oil and it was proved conclusively in 1923 and 1924 this crude can find a ready market on the Atlantic Seaboard.

PRODUCTION IN THE UNITED STATES

Estimated daily average production of light and heavy gravity oil in the United States for week ended December 10, and a comparison with the previous week follows:

	Dec. 10		Dec. 3	
Oklahoma—	Light	Heavy	Light	Heavy
Tonkawa	16,335	.....	16,415	.....
Burbank	37,315	.....	37,225	.....
Other Osage Fields	30,020	.....	30,040	.....
Cushing and Shamrock	20,915	.....	20,950	.....
Bristow and Eastern Bristow	24,840	.....	24,820	.....
Cromwell	10,730	.....	10,815	.....
Garber	9,815	.....	9,875	.....
Blackwell-Braman	8,770	.....	8,880	.....
Seminole	395,510	.....	424,235	.....
Wewoka	10,170	.....	10,295	.....
Northern Miscellaneous	111,115	.....	111,420	.....
Southern Fields	60,595	.....	61,045	.....
Total Oklahoma	736,130	.....	766,015	.....
North Louisiana	39,130	8,490	38,995	9,015
Arkansas	22,775	73,345	23,000	73,670
North Central Texas	136,747	.....	139,528	.....
West Texas	255,642	.....	249,001	.....
Texas Panhandle	86,360	.....	86,225	.....
East Central Texas	28,317	.....	28,645	.....
Kansas	106,180	.....	106,285	.....
Total Mid-Continent Area	1,411,281	81,835	1,437,694	82,685
Gulf Coast	.....	143,400	.....	141,356
Southwest Texas	.....	25,865	.....	28,374
Eastern	113,000	.....	114,000	.....
Rocky Mountain Area	74,440	.....	79,518	.....
California—				
Santa Fe Springs	39,000	.....	39,000	.....
Long Beach	112,500	.....	108,000	.....
Torrance	3,000	17,000	3,000	17,000
Huntington Beach	61,000	.....	60,500	.....
Dominguez	14,000	.....	14,000	.....
Rosecrans	9,250	.....	9,500	.....
Inglewood	20,000	12,000	20,000	12,000
Ventura Avenue	52,500	.....	53,000	.....
Seal Beach	46,000	.....	47,000	.....
Remainder of State	55,000	186,000	55,000	186,000
Total California	412,250	215,000	409,000	215,000
Total United States	2,010,971	466,100	2,040,212	467,415
Grand Total		2,477,071		2,507,627

Total Decrease, 30,556 Bbls.; Light Oil Decrease, 29,241 Bbls.



Domestic Grades of Gasoline Weaker

Additional Export Purchases Support High Gravities. Natural Gasoline Lower. No Changes in Other Products

By W. T. Ziegenhain

The lesser demand for gasoline moving into the north central states from Oklahoma refineries added weakness to an already heavy market and there was a fair amount of the U. S. Motor grade sold at prices slightly below 6 cents. This condition did not exist in the case of the low endpoint gasolines for there was additional export purchases of this material made during the week and the supplying of the material to be shipped over the month purchased a week or more ago removed the greater share of the surplus. If new export purchases are made over the balance of the week, this will tend to strengthen U. S. Motor also.

It is apparent there is a decided tendency toward supplying still lower endpoint gasolines and U. S. Motor gasoline is assuming about the same position in many market territories that 56-58 450 endpoint gasoline held two or three years ago.

Natural gasoline was too plentiful to be maintained at last week's prices. The A grade was scarce and there was enough demand for it to hold the same price, but the C grade was being offered freely at lower prices. Kerosene did not prove to be any more popular than last week and with the failure of the export inquiries to materialize into sales, there was a willingness on the part of refiners to sell at the present market prices and even take slightly less for their material rather than depend on a strengthening of the market coming from any future export purchases.

There was a decided increase in the shipments of furnace oil and the low

REFINED MARKET BAROMETER

A decrease in the domestic demand for gasoline was partly offset by the improved demand for export movement and prices were generally unchanged along the Atlantic and in California but slightly lower prices were quoted on the U. S. Motor grade in the Mid-Continent. Natural gasolines developed added weakness as export inquiries failed to materialize. The high rate of production coupled with a slowing up of the demand for refinery gasoline has caused natural gasoline manufacturers to offer concessions to move the material, leaving little confidence in the immediate future of this market. Kerosene continued heavy with very little material being moved for export. Distillates and furnace oils became popular as the recent cold wave spread over the country. Gas oil and fuel oil continued very heavy. Lubricants continued very plentiful and the increased Pennsylvania crude prices failed to be a factor in the market. Wax remained unchanged with buyers unwilling to pay higher prices.

Mid-Continent. Export purchases of the low endpoint gasolines supported that market but the U. S. Motor grade was traded at fractionally lower prices. Kerosene, fuel oil and gas oil remained unchanged. Distillates moved in greater volume, particularly the low-flash, treated grades.

Atlantic Seaboard. Price cutting on fuel contracts was about the only change in the general market. Gasoline and kerosene remained unchanged. Cold weather improved the demand for furnace oils. The increased Pennsylvania crude prices has given the market an improved tone but is not taken as a forerunner of a general crude advance in other sections. Lubricants and wax moved slowly and the granting of concessions on recent wax purchases has undermined confidence in the future of that market.

Pennsylvania. Colder weather slowed the demand for gasoline but there were no price changes. Kerosene proved a little more popular with other products remaining the same.

Chicago. A lesser demand for gasoline and an improvement in the demand for furnace oils were about the only changes in the refined oil market following the coming of colder weather.

Gulf Coast. There was no change in lubricating oil prices but all grades were being offered freely at present prices. Fuel oil was being moved in bunkers at a rapid rate while the tank car movement was very slow.

California. Gasoline consumption within the state has remained high and is lending support to the domestic market, but there is still plenty material available and a large share of it is moving for export at prices decidedly under the domestic market. Kerosene export shipment, especially the cased goods, is moving out rapidly.

cold test gas oils having a high flash. The light furnace oils were favored in these sales and the price was increased in a few cases. Gas oil for cracking and industrial uses was plentiful and refiners were offering to supply the higher gravity fuels as blends of the heavy fuel and gas oil who ordinarily are out of the high gravity fuel market.

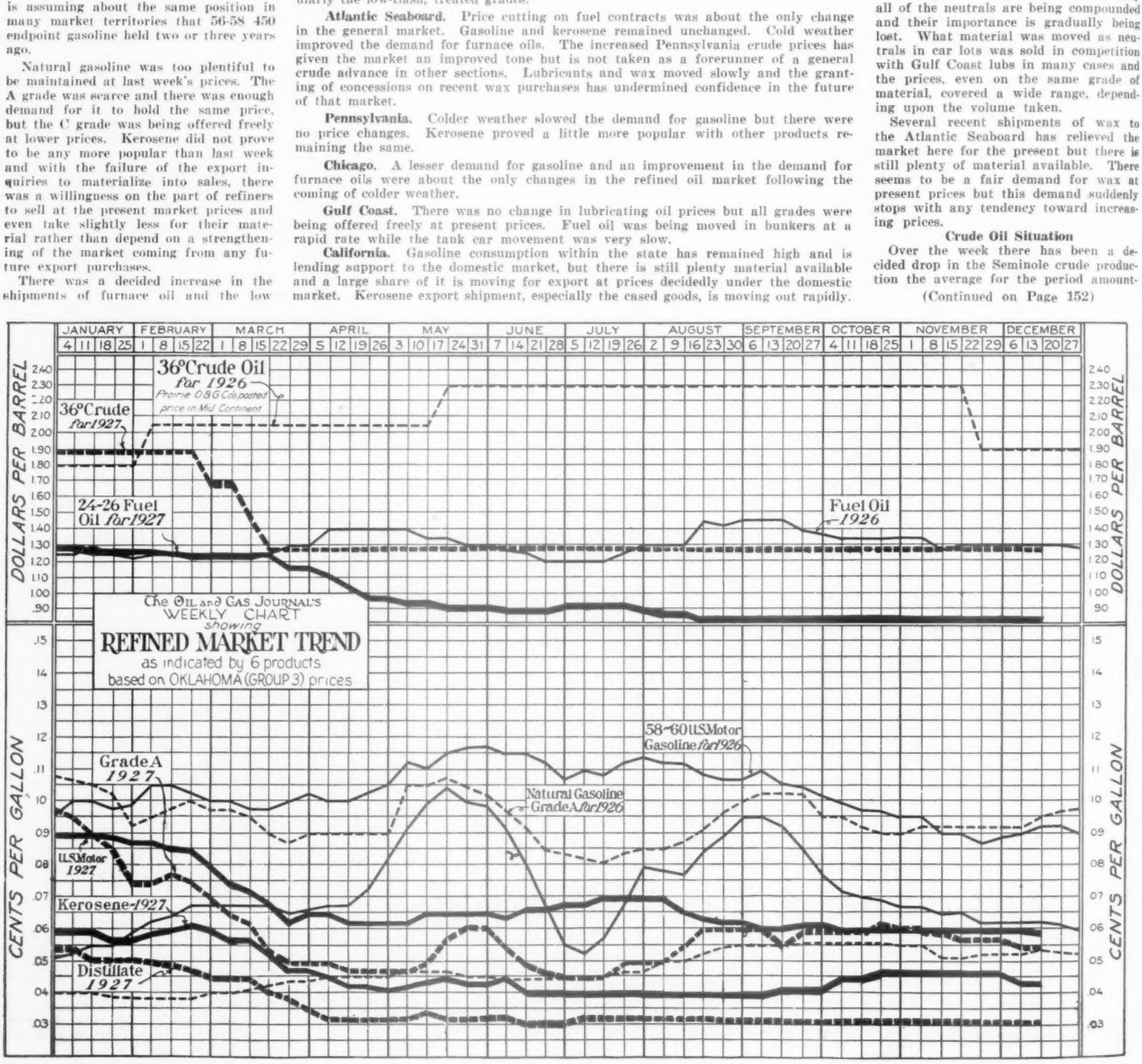
The bulk of the lubricating oil movement was in the compounded oils, and although conditions in general were little changed over the week there was evidence of added weakness in bright stocks and steam refined stock. Production of these has been increasing over the last few months, and more material is being offered by refiners outside of Oklahoma to the regular Group 3 trade. Practically all of the neutrals are being compounded and their importance is gradually being lost. What material was moved as neutrals in car lots was sold in competition with Gulf Coast lubs in many cases and the prices, even on the same grade of material, covered a wide range, depending upon the volume taken.

Several recent shipments of wax to the Atlantic Seaboard has relieved the market here for the present but there is still plenty of material available. There seems to be a fair demand for wax at present prices but this demand suddenly stops with any tendency toward increasing prices.

Crude Oil Situation

Over the week there has been a decided drop in the Seminole crude production the average for the period amount-

(Continued on Page 152)



Important Market Changes Under Way

Trend Toward National Distribution of Petroleum Products Gaining Impetus. Standard Companies Rapidly Altering Previous Policy

By C. O. Willson

From the standpoint of national distribution of petroleum products The Texas Company is the industry's outstanding example of the benefits accruing from widespread distribution of the principal products obtained in the operation of refineries. This company for several years has had a wider domestic distribution than any other single oil company.

Backed with 12 refineries which are located in 10 states the marketing department has been able to make the company's products available to consumers in practically all parts of the country with the exception of certain sections in the extreme west. This widespread distribution has justified advertising programs which have been national in scope. As a result, the company's products are probably as well known as other commodities the manufacturers of which constantly keep their names before the public through the medium of national advertising.

It has been apparent during the past year that The Texas Company has benefited by this program. It is equally obvious that several other companies have The Texas Company's plan as their goal, an objective which they are rapidly approaching. Independent jobbing interests have also sensed the importance of this development. Through a national organization many have adopted uniform trademarks for their products supported with national advertising in an effort to secure the continuity which distinguishes the operations of their large integrated competitors.

Standard Position

The position of some of the Standard group in the past, while this situation was developing, has left much to be desired. To show this condition it is only necessary to compare the present market situation with that which existed in 1911 at the time the Standard dissolution became effective. At that time it was estimated that the Standard companies operated as one unit, manufactured and sold 80 per cent of all refined products consumed in the United States. The writer has not seen any figure relative to the importance of all the Standard companies in marketing at the present time but it is certain that for the country as a whole it is well under 50 per cent and constantly decreasing.

At the time of the dissolution it was agreed that those Standard companies which were engaged in the marketing of petroleum products should not enter each other's territory. The idea apparently was that if they overlapped their market territories they would simply take business from one another and that a better plan would be to allow each company to have exclusively all the increased business that would develop in its territory. For several years this division of marketing territories was respected by all concerned.

Active Competitors

In the meanwhile these same Standard companies became active competitors in the production and refining of crude oil. This development needs no explanation here. It is sufficient to state that at the present time there is not a major oil area in which two or more of the old Standard companies either directly or through subsidiary companies are not actively competing with each other in the purchase and development of leases for the production of crude oil. They are also active competitors of in the operation of pipe lines and the purchase of crude oil. In the refining end they have developed their manufacturing processes with the view of gaining some advantage if possible in that branch of the oil business through lower operating costs.

The incongruous position of the Standard companies in this situation is apparent. These companies have been expected to continue as dominant factors in the production, buying and refining of crude oil but at the same time were restricted as to where they should market the refined products.

The results of this policy have already been indicated. Instead of protecting the Standard companies in the marketing of their products it enabled outside competitors to come in and get the business which they feared they would take from one another. These competitors, at first of little consequence, have in several instances grown larger than some of the Standard units and, taken together, represent more than 50 per cent of the oil business today. Many instances can be cited where the Standard representative in certain market territories is led by one or more of the so-called "independent" companies.

Change in Policy

The break away from this exclusive market agreement started a few years ago. The start was due to the fact that the several Standard companies in acquiring other companies occasionally obtained marketing properties located in the territory of one of the other Standard companies. These properties in some cases continued to operate usually under the name of a subsidiary company. No attempt at first was made to enlarge the marketing operations of these acquired companies. The practice of the parent companies was still to recognize the territorial limitations.

More recently, however, there has been considerable evidence that this overlapping in the sale of products was not merely a makeshift arrangement but in the case of three or four companies at least had become a definite policy of expansion made necessary by the conditions previously explained. These companies have found it expedient to expand their market outlets in line with their increased crude oil production and refinery output and they have been unable to do this by confining their sales to the territory originally assigned them.

To get back the 80 per cent of the market outlet, the Standard companies had at the time of the dissolution is no longer feasible. They can, however, go into each other's marketing territory and get their share of the business without affecting materially the volume of business obtained by the Standard company which has been operating for years. The latter has seen outsiders come in and get the greater part of the increased business and one additional competitor does not materially aggravate this situation. It is said that those responsible for policies of the larger Standard companies sensed this situation some time ago, a contention which is borne out by some of the developments of the past year and those which are in prospect for the coming year.

Individual Situation

To get away from generalities and point out specific instances it is contended by observers of developments in petroleum marketing during the past years, that there is no valid reason why the refined products of the Standard Oil Co. of New Jersey should not be available to consumers in every state of the Union. The same is true of the Standard Oil Co. of Indiana, the Standard Oil Co. of New York, the Standard of California and probably some of the other companies.

These companies individually are much larger than the original Standard company at the time of the dissolution. They have expanded steadily in all departments of the oil business despite the handicap of limited marketing areas. Either directly or through subsidiary companies they are large producers of crude oil in most of the major fields. They already have refineries located at points strategic from the standpoint of distribution. They could easily build or purchase what additional refineries were needed for the general distribution of their products.

In most cases they have research departments which are constantly at work developing new products or improving those which they have manufactured for some time. With these facilities, coupled with the prestige which they have already acquired in their particular marketing territories, they would have little difficulty in obtaining their share of the business in any new territory they might enter.

It is pointed out in this connection that the improvement in public highways adds to the attractiveness of national distribution of gasoline and other products. Automobile trips covering thousands of miles are as common as trips of a few hundred miles were in the past. Automobile owners on long trips prefer to purchase the products which they are accustomed to buy at home providing they are available. This factor will have increasing importance in the future as more highways are improved and better motor vehicles add to the comfort of cross country driving.

It will probably be contended that no general overlapping of Standard marketing territories is possible due to the confusion which would arise in the public mind relative to the names of the companies and the trade-marks for the refined products. The companies are getting around this objection at present by operating in overlapping territory through subsidiary companies with different names and trade-marks. Some observers believe this policy will continue until such time as the companies establish complete national distribution and then if considered necessary a new company name and new trade-marks could be adopted. This change it is pointed out could be easily made with the aid of national advertising.

Changes Already Made

Relative to the changes which already have been made by Standard companies looking to the enlargement of their marketing areas numerous developments can be cited. Among the more aggressive companies has been the Standard Oil Co. of Indiana. This company, through the medium of the Pan American Petroleum & Export Co. with its several marketing companies, is rapidly establishing itself as a major distributor in the states to the east and south of the middle western states when the parent company has been the major distributor for many years.

In addition to its marketing agreement with the Continental Oil Co. which is the Standard marketing representative in the Rocky Mountain area, the Indiana Standard is also said to have taken over certain independent jobbing interests in the mountain states in order to establish a direct outlet for its products.

The Continental Oil Co. whose operations were formerly confined to marketing in the Rocky Mountain area has also become engaged in crude oil production and refining and its market outlets now cover a wide area outside the mountain states. The purchase of the Texhoma Oil & Refining Co. in Texas established the company as producer, refiner and marketer in that State. These properties are now operated under the name of the Continental. In Oklahoma since the purchase of the Sapulpa, Okla., refinery of the Sapulpa Refining Co., the Continental has greatly increased its market outlets so that now it is one of the principal distributors in the state. In addition the company is a major distributor in several states of the Middle West where it comes in direct competition with the Indiana Standard.

The Standard Oil Co. of New York through its acquisition of the General Petroleum Corp. is now a competitor of the Standard Oil Co. of California on the West Coast. In the Southwest this company markets through the Magnolia Petroleum Co., a subsidiary company. In Texas the company has seen its territory invaded by the Humble Oil & Refining Co., a subsidiary of the Standard Oil Co. of New Jersey, in addition to the Continental previously explained. This company also overlaps with the Standard Oil Co. of Louisiana (another sub-

(Continued on Page 87)

STANDARD COMPANIES AND NATIONAL DISTRIBUTION

The coming year is to witness a further extension of the trend toward national distribution of petroleum products by major companies. In the enlargement programs the major independent companies apparently are to be joined by several of the Standard group giving additional proof of the fact that these organizations no longer intend to recognize the old territorial agreements covering the marketing of products obtained in their refinery operations.

To many this so-called "evolution" in marketing overshadows in importance all other developments in the oil industry. It is interpreted as a necessary preliminary step in a plan pointing to greater stabilization of the oil industry's markets extending from the production of crude oil to the operation of service stations. It is contended that the desired stabilization is not possible until such time as the marketing facilities of the major oil companies have been combined or enlarged so that they afford a direct outlet to the crude oil production and refinery phases of the companies' activities.

There is an additional fact that more and more companies are coming to believe that the advantages in having distribution over a wide area more than offsets the disadvantages. In this connection, the rapid expansion in marketing facilities by companies like The Texas Company, Gulf, Sinclair, Roxana-Shell, Pure, Cities Service and a number of smaller companies whose operations cover all departments of the oil business, are generally known.

Pipe Liners Most Active in West Texas

Approximately 1,400 Miles of Line Constructed This Year With Plans Made for About Same Length During 1928

By James H. Dameron

FORT WORTH, Tex., Dec. 12.—Completion of the Magnolia Pipe Line Co.'s 265-mile 8-inch welded oil carrier from the West Texas fields east to intersect the company's system terminating on the Gulf Coast, boosted the trunk line crude outlet of those fields to 153,000 bbls. daily.

The extent of pipe line construction work in West Texas during 1927 is shown by the accompanying map. Approximately 1,400 miles of trunk system has been built this year, including the numerous short lines built to loading racks and refineries in that area.

Next year will probably witness the building of just as much mileage of trunk lines out of West Texas. Projects now under construction and those planned for the coming year will more than double the present trunk line mileage.

Production of West Texas is now around 250,000 bbls. daily or 100,000 bbls. daily more than the trunk line capacity out of the vast area. Moreover, the two disturbing pools, Yates and Hendricks in Winkler County, are pinched in to around 82,000 bbls. daily and the most conservative estimate they could both, combined, be producing around 500,000 bbls. daily within a few weeks if both were opened.

Considering the loading racks and the lines running to the racks, the pipe line capacity is above the present production. But the market facor is preventing the operating of those racks at full capacity. However, shipments of West Texas crude by tank cars to northern, eastern and southern refineries is increasing.

A survey made about a month ago showed the combined loading rack capacity in West Texas to be 580 cars, and that the average car would contain 200 bbls. of crude thus giving a possible outlet for 116,000 bbls. more daily. Figuring the loading racks to handle that much crude daily the combined trunk line and loading rack outlet would total 269,000 bbls. daily.

Completion of trunk lines, however, eliminated the need for several racks and a number of the racks were built for the future in the event the company operating the racks need more loading rack capacity. With the exception of a few thousand barrels the oil finding an outlet from the field is going through the four trunk lines going to tidewater and through the one line going to storage 132 miles distant. Around 20,000 bbls. daily is being refined in West Texas.

Pipe Line Capacity

Magnolia Pipe Line Co., Gulf Pipe Line Co. and Humble Pipe Line Co have all completed their seaboard carriers. The Magnolia company's 265-mile 8-inch system from the Midland tank farm to DeLeon station in Comanche County connects with that company's pipe line system to the Gulf Coast. The line was extended south to the Church & Fields Pool with 8-inch pipe. The main line has an estimated capacity of 25,000 bbls. daily. Magnolia company has a 4-inch line running from a loading rack at Iatan in Mitchell County to the Westbrook Pool and another 4-inch line running to the Chalk Pool in Howard County.

Humble Pipe Line Co. has a daily line capacity of 90,000 bbls. daily out of West Texas. That company's 352-mile combination 10 and 12-inch line from Kemper station near the Big Lake Pool in Reagan County to Corpus Christi has a capacity of 50,000 bbls. daily. The same company has a double 8-inch line, 190 miles in length, running east from Kemper station to Comyn station in Comanche County. The latter line has a capacity of 40,000 bbls. daily and connects with the Humble company's North Texas system leading to the coast.

Kemper is the main station on the Humble company's West Texas system and heading into that are numerous lines from the various pools. A 32-mile 8-inch line taps the Yates Pool and a 15-mile 4-inch line runs into the World-Powell Pool in Crockett County. Forty-two miles of 8-inch and 10-inch lines go west from Kemper to McCamey and an 8-inch, 6-inch and 4-inch system extend on north to the McIlroy and Church & Fields Pools and through the Crane-Upton area. The same company has made a survey for a 55-mile, 8-inch line from Church & Fields to the Hendricks Pool in Winkler County. When that line will be built has not been announced.

The Gulf's System

Gulf Pipe Line Co.'s system out of West Texas is a 211-mile, 8-inch line originating at the Midland pump station and goes east to Ranger in Eastland County where it connects with the Gulf company's southern trunk system. The capacity of that system is estimated to be 25,000 bbls. daily. The same company has an 8-inch line running south from Midland to the Church & Fields and McIlroy Pools and half of that line is looped with 8-inch pipe.

The Gulf recently entered the Yates Pool with an 8-inch line which extends north from Yates to a loading rack on the Orient Railroad at Hurdle. The line is 25 miles long and rated good for 10,000 bbls. daily. A 50-car loading rack was built at the terminal and the pipe line company has a contract to ship 5,000 bbls. daily via tank cars to the Sinclair refinery in Louisiana. Two 80,000-bbl. capacity steel tanks have been built near the loading rack.

The Gulf some time ago proposed to build an 8-inch line almost due east out of Winkler to connect with the 8-inch line running from Church & Fields to Midland. Additional tankage is being erected in the Hendricks Field to augment the two 80,000-bbl. storage tanks.

Illinois Pipe Line System

Illinois Pipe Line Co. completed an 8-inch line from Yates to Del Rio in southeastern Val Verde County some time ago for a rated capacity of 13,000 bbls. The pipe line company has a 2,000,000-bbl. tank farm under construction at the terminal and a loading rack at Del Rio.

However, the line is being extended to tide water and additional pump stations are being built on the 8-inch line to boost line capacity to 35,000 bbls. daily. The extension to seaboard will be a 10-inch line but where it will terminate has not been announced. It was first reported the line would terminate in Houston but later reports are to the effect the line will terminate at Ingleside Harbor where the Humble company's 50,000-bbl. line terminates.

The Illinois company was the first company building a line from Yates. One was a 6-inch line to a loading rack at Hurdle and the other was an 8-inch line to a loading rack at McCamey. The rack at the latter place is not being used and the Humble company's refinery at McCamey is being supplied with crude through the 8-inch line.

Activity at Hendricks

New pipe line work in West Texas continues to move ahead with speed, and most of the work at present is going on out of the Hendricks Field.

Atlantic Pipe Line Co. is building a 32,000-bbl. capacity 10-inch line from Hendricks east to Midland. Pipe is being strung and part of the ditching has been finished. A station will be built in the field and a booster station will be erected half way between the ends of the line. No definite announcement has been made concerning a loading rack at Midland or storage at the terminal.

Ocean Pipe Line Co. of Fort Worth will be running oil through its 18-mile 4-inch line from Hendricks to Pyote. A 25-car loading rack has been built at Pyote and the line will have a capacity of 7,500 bbls. daily. One steam pump station will be built in Section 29, Block B-5, Winkler County.

Pecos River Oil & Pipe Line Co. of Fort Worth and related to the Ocean company, has completed plans for the building of a 6-inch line from the Yates Pool to Hurdle. A 50-car loading rack will be built at Hurdle and the proposed line will have a rated capacity of 12,500 bbls. daily.

Shell Pipe Line Corp. is reported to have started construction work on its 8-inch line from Hendricks south to the Texas Pacific Railroad at Monahans. The same corporation is building a 6-inch line from Yates to McCamey.

These two short systems will be linked with a 6-inch line running southeast from Hendricks to Church & Fields and then south to McCamey when the company's proposed pipe line project for West Texas is completed.

Shell corporation has made plans for the building of a 10-inch line originating in the Hendricks Field and running northeast to Healdton, Okla. Recently the Ozark Pipe Line Co. doubled its 8-inch line from Healdton to Cushing which goes on east to East St. Louis. Both are affiliated companies of the Roxana Petroleum Corp.

Pure Pipe Line Co. has made a survey for a 6-inch line from Hendricks to the Texas Pacific Railroad and the Independent Oil & Gas Co. is building an 8-inch line from Hendricks to Pyote where a 75-car loading rack will be built.

American Petroleum Co. recently completed a 6-inch line from Hendricks to Pyote where it has a loading rack and tank farm. Southern Pipe Line Co. was the first in the Winkler Field and has a 6-inch and 8-inch line running to Wickett. The loading rack there has been completed as a 68-car rack as per the original plans of the company affording a loading rack capacity of around 45,000 bbls daily. The company is now shipping around 17,000 bbls. daily from Wickett to refineries to the north and in Louisiana.

Southern company has a 12,000-bbl. capacity 16-mile 6-inch line from Hughes station, Section 56, Block 35, Crane County, to the Church & Fields area. Texas Pipe Line Co. leased its gathering system in the McCamey district to the Southern company and the latter company has a 4-inch line extending from its Hughes station to a loading rack in McCamey. Crude loaded at that station has in the past been moved to Gulf Coast ports.

There has been a current rumor for some time that one of the large Mid-Continent pipe line companies was seriously considering building a line into West Texas.

Should such transpire then the year 1928 would probably wind up with a record as great as was made this year in pipe line building in the new area. Shell corporation's project could not be completed until then nor will the Illinois company's plans for extending its system be completed until that time.

INDEPENDENT BUYS PHILMACK CO.; WAITE PHILLIPS BECOMES CHAIRMAN

Announcement was made this week that the Independent Oil & Gas Co. of Tulsa had purchased the leasehold assets of the Philmack Co., also of Tulsa, and that Waite Phillips had been elected to the newly created position of chairman of the board of the Independent company. In addition, the following were elected directors to fill vacancies existing in the board: R. Otis McClintock, Gillette Hill, Mr. Phillips and R. P. Brewer, president of the First National Bank of Tulsa, Okla.

The leaseholds of the Philmack Co. include properties in the central Oklahoma fields, and the West Texas regions. The company has been unusually active in the Greater Seminole area, and has many leases in the territory, close to wells which are now shut in, in accordance with the ruling of the Seminole operators committee.

The Philmack Co. was formed in Tulsa in 1926. Mr. Phillips in the fall of 1925 sold out the company which carried his name to Blair & Co., bankers of New York, for a price reported at $25,000,000. For a year he traveled and was away from the oil country, and upon his return last year he and R. Otis McClintock joined to organize the Philmack concern.

E. H. Moore, who continues as president of the Independent company, was a resident of Okmulgee for many years. After leaving college he practiced law and became interested in oil. In 1919 with a few friends he formed the Independent concern, and it has since participated in the principal fields of central Oklahoma. Later it branched out and operated at first in Kansas, and then in the Texas fields. In Kansas it opened the Rainbow Bend Pool in Cowley County, in which Mr. Phillips through his company owned a half interest. In the Texas fields, the Independent has been conspicuous in the Crane-Upton region, and more recently in the Winkler County Pool, where it completed a well flowing 3,000 bbls. In addition to its production, the company is one of the principal holders of leases in West Texas.

Two years ago, the Independent Oil & Gas Co. purchased the plant of the Indiahoma Refining Co. at Okmulgee together with its pipe line and tank farms. This has given the company its own cycle of producing, transporting and refining facilities. Ten days ago it announced the construction of a pipe line from the Winkler Pool region to a railroad to handle its own crude.

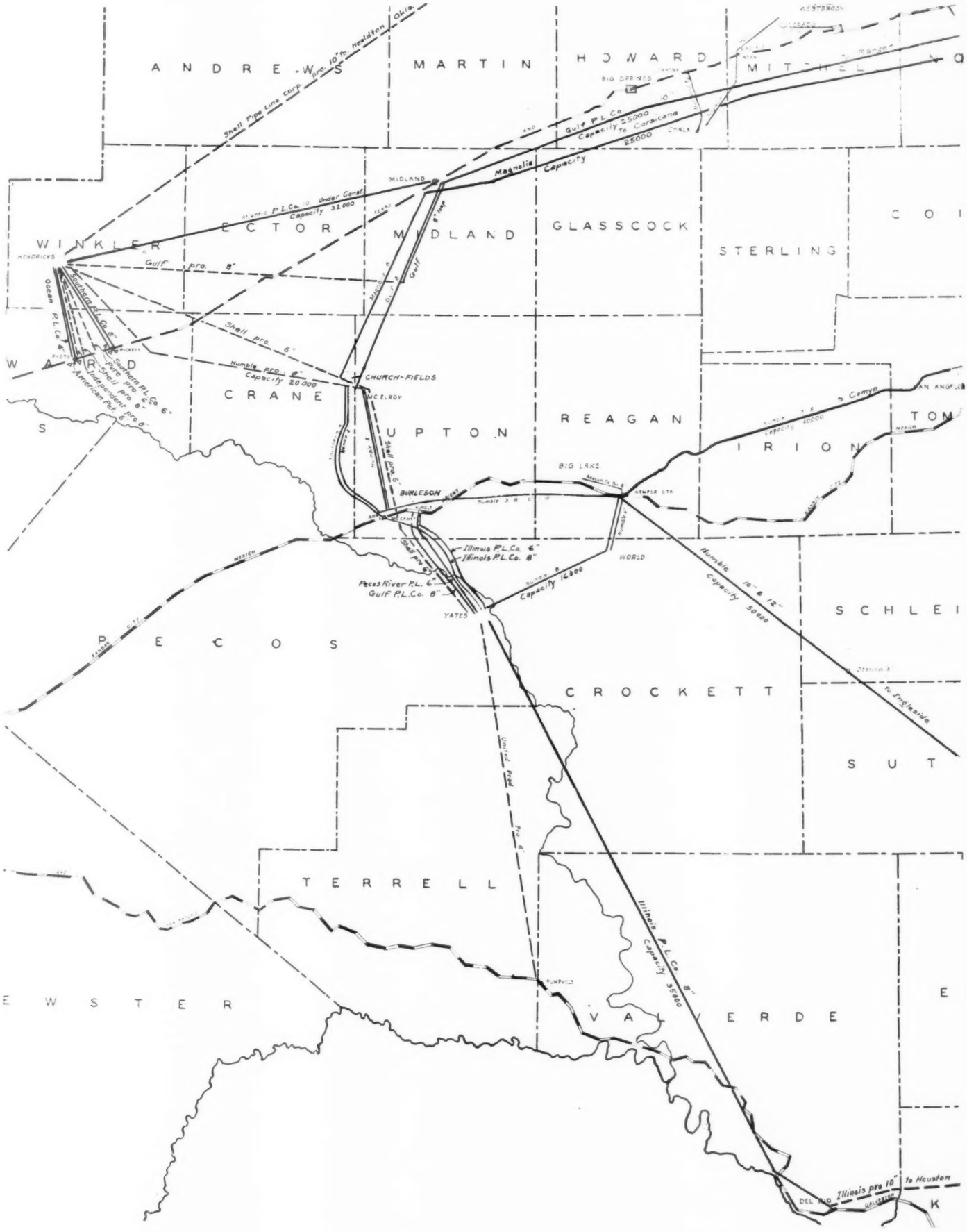
R. B. Pringle, now vice president of the Independent, was associated with Mr. Phillips as vice president of the Waite Phillips Co.

Mr. McClintock obtained most of his petroleum experience with the Gulf interests. Gillette Hill is one of the youngest oil executives. His first oil experience was obtained in the Ranger district. He joined the Waite Phillips staff in 1921. Mr. Brewer is well known in financial circles, and has been active in many oil companies.

The Philmack organization will move to the offices of the Independent Oil &

(Continued on Page 150)

OIL PIPE LINES, AND THOSE BUILDING AND PROPOSED, IN WEST TEXAS



No Evidence of Gasoline Manipulation

Report of Federal Trade Commission to Congress Notes Growing Sentiment for Co-operation in Production of Oil

No recent evidence of agreements or manipulations of any size among large oil companies to raise or depress prices of crude petroleum or refined products was found in its investigation of the petroleum industry, says the Federal Trade Commission in its 300-page report on "Prices, Profits and Competition in the Petroleum Industry," submitted to Congress.

However, it is reported that in 1926 and 1927 officials of the largest oil companies agreed to restrict production of crude petroleum in the Seminole fields for protection of their profits through prevention of further decline in crude and refined prices, and for prevention of waste, in which activity they were aided by public authorities of Oklahoma.

Notes Regulation Sentiment

In submitting its report to Congress the commission says it notes a growing sentiment for regulating production of petroleum so as to conserve the supply and protect the financial interests of land owners and operating companies. The commission announces it is not prepared to recommend particular methods to be used, as this problem is now being considered by the Federal Oil Conservation Board.

The commission's report is in response to Senate Resolution No. 31, adopted in June, 1926, and addressed primarily to the question whether there is arbitrary control of prices of petroleum and its products through agreements among companies in the industry or through conditions of ownership or control of oil properties.

The resolution referred to "material advances recently made" in the price of crude oil, gasoline, etc. The report shows that prices materially advanced in the face of rapidly accumulating stocks early in the years 1924, 1925 and 1926, and were reduced later in those years when stocks were decreased. The change in price was downward early in 1927, however, in strong contrast to what happened in the three years preceding.

Supply and Demand Controls

The commission reports its inquiry tends to show that price movements over the longer periods were controlled by conditions of supply and demand but that these conditions were reflected imperfectly in shorter periods, partly because crude prices are determined by the decisions of a few large purchasing companies among which there is generally little real competition.

The inquiry disclosed with respect to company management that 179 directors hold 458 directorships in companies covering 70 per cent of the industry, aside from the production of crude, but only four instances were reported of interlocking directorates such as would have an appreciable tendency to unify the control of any considerable part of the industry.

The controlling ownership of the several Standard Oil companies which, after the dissolution decree was put into effect in 1911, rested in the hands of three or four individuals, has been widely dispersed. So far as this factor is concerned there is no longer unity of control of these companies through community of interest. Among different companies this community of interest varies widely, and is largest among the pipe line companies.

Of nearly 10,000 reported large stockholders in all reporting companies only 163 were found to have as much as 1 per cent or more of the voting stock of each of two or more companies, and only 22 of these were holders of stock in potentially competing large groups. With respect to 5 individuals and 11 other holders, each of them had more than 1 per cent of the voting stock of the controlling companies in two or more of the Standard groups, and each of six brokerage houses held more than 1 per cent of the voting stock of both Standard and independent companies. None of these holdings, however, appears to have any especial significance with respect to control, according to the report. No individual reported as the holder of 1 per cent, or more, of the stock of two Standard companies is reported as an officer or director of any company in the petroleum industry.

Recent Mergers Reported

Recently several important mergers have been made in the oil industry of companies engaged in interstate trade, and in each case except one a Standard company has been one of the elements of the new organization. Among them may be mentioned the combination of the Standard of Indiana with the Pan American Petroleum & Transport Co., the Standard of California with the Pacific Oil Co., the Standard of New York with the General Petroleum Corp. and the Tidewater Oil Co. with the Associated Oil Co. Only the economic results of these mergers are considered in the report and a study of them discloses in each case the development through this means of "a rather completely integrated organization, with marketing outlets for refined products and with sufficient crude production and proven acreage to supply the refineries included." In two instances especially, not mentioned above, the companies merged had been marketing petroleum products within the same areas, so that some suppression of competition was incidentally involved in merging them, it is said.

It is apparent, according to the report, that competitive activity in the industry has increased in recent years but this has not prevented an increasing rate of profit in all branches. Returns were received by the commission from most of the important producing, refining and marketing companies. For the years 1923, 1924, 1925 and the first half of 1926, the rate of profit on investment, based on the companies' own figures, ranged from an average of 2.5 per cent in 1923, a year of depression in the industry, to 14.7 per cent in the first half of 1926 for all crude oil producing companies reporting, and from 5.1 per cent to 11.3 per cent for the refining companies.

Profits of interstate pipe line companies were much higher, the report shows, having exceeded 17 per cent in every year of the period 1921-1926, and averaging no less than 20.3 per cent.

Profits Lower Now

The profits of the petroleum industry, however, were much higher before and during the war than in recent years.

"Complaints as to unfair competition are not frequently encountered, the independent jobbers being more concerned about price cutters in their own ranks. It is admittedly one of the chief functions of jobbers' associations to keep members from cutting the tank wagon and filling station prices announced by the Standard companies. The Standard companies and the other large companies, when once established, in a particular territory, are not complained of much as price cutters. Particular cases of alleged unfair competitive methods are described in this report."

The Standard marketing companies continue in general to confine their tank wagon sales to retailers and their filling station business to the separate territories assigned to them before the combination was dissolved, but there are now numerous exceptions to this rule. Thus the Standard of New York and the Standard of California compete for such business on the Pacific Coast. In Texas and Arkansas the Standard of New York likewise competes with the Standard of New Jersey. The Standard of Indiana through a recently acquired subsidiary is now in competition with the Standard of New Jersey, the Standard of New York, the Standard of Kentucky, and other instances might be cited.

Moreover, some of the largest Standard companies hold themselves ready o sell gasoline in tank cars to jobbers without restrictions as to the territory of resale, thus making it possible for the independent jobber to resell in competition with them. Some of the them also sell in tank cars outside of their regular marketing territories. The number of independent jobbers is large and is rapidly increasing.

Advance Prices Announced

"General changes in tank wagon market prices of gasoline are decided upon and announced to competitors, generally a day in advance by each company of the Standard Oil group for its particular territory, independently of the other Standard companies. These changes in prices, which are not simultaneous for the different Standard companies, are generally followed immediately by most of the independent marketers in the respective regions in which such price changes are made. The independent companies seldom take the initiative in changing prices. Discounts and concessions from the regular prices are often given to various customers at different times by all the companies in the trade. While there is keen competition for volume of business between the various independent marketers and the Standard Oil companies in the several territories,

(Continued on Page 83)

Full Text of Official Summary By Federal Trade Commission

After investigating the oil industry for a year and a half, the Federal Trade Commission, in its report submitted to Congress, has failed to find any violation of law or cause of complaint against the manner in which this great business has been conducted.

The report itself, the official summary of which is published in full herewith, indicates the extremely critical attitude brought to bear upon all the information that has been gathered by the Commission.

HIGH PRICES PAID FOR LEASES ON THE EAST SIDE OF BURBANK

Osage County wildcat leases on a bargain counter basis and liberal drilling requirements resulted in a lively auction at Pawhuska, Okla., on Monday, December 12, when 125 tracts were put up for sale to the highest bidders. A total of 119 tracts were purchased at prices ranging from $100 to $600,000. The total bonus paid for the 119 tracts was $2,437,700, an unexpectedly large sum. George Parker, representing the Lewis Gas Products Co., paid $600,000 for the SW of Section 2-26-6 after a spirited contest with the Prairie, Carter, Kewanee, Indian Territory, Texas and Phillips organizations. The Carter Oil Co. bid in the SE of Section 3-26-6 at $465,000. Other notable prices paid were as follows: The Texas Company, $100,000 for the NE of Section 14-26-6; Prairie Oil & Gas Co. and Oliphant, $300,000 for the NW of Section 21-27-6; Kewanee Oil & Gas Co., $405,000 for the NE of Section 28-27-6; Prairie Oil & Gas Co., $95,000 for the NE of Section 10-26-6.

A minimum of $160 was permitted on wildcat leases and many of these bargains were picked up. Under the regulations attending this sale, lease owners have five years in which to start operations, where formerly they were allowed one year.

Following is a list of the tracts sold:

East of Range 7

Tr. No.	Description	Acreage	Bonus	Purchaser
1	NW 3-21-11	160	$100	Winona Oil Co.
2	NE 4-21-11	160	100	Peters Petroleum Corp.
3	NE 15-21-11	160	350	Peters Petroleum Corp.
4	SE 15-21-11	160	400	Peters Petroleum Corp.
5	SW 16-21-11	160	100	G. O. Smith and W. S. McCray
6	SW 28-21-11	160	1,600	White Eagle Oil & Refining Co.
7	NW 33-21-11	160	1,500	Beacon Oil Co.
8	SE 22-22-11	160	400	Ray Branstetter.
9	SE 24-22-11	160	400	Penowa Oil Co.
10	SW 28-22-11	160	500	Winona Oil Co.
11	NE 34-22-11	160	500	Peters and Prod. & Ref.
12	NW 34-22-11	160	1,200	Peters and Prod. & Ref.
13	NE 22-27-11	160	4,350	Peters and Prod. & Ref.
14	NW 13-21-10	160	600	T. O. Lilystrand.
15	SW 25-22-10	160	550	Indian Territory Ill. Oil Co.
16	NW 16-23-10	160	300	Plains Petroleum Co.
17	SE 16-23-10	160	150	Plains Petroleum Co.
18	SW 23-23-10	160	300	Ray Branstetter.
19	NW 29-24-10	160	700	Peters and Prod. & Ref.
20	SW 29-24-10	160	850	G. V. Labadie.
21	SE 34-25-10	160	100	Smith and McCray.
22	SW 34-25-10	160	100	Smith and McCray.
23	SW 4-21-9	160	650	Plains Petroleum Co.
24	SE 5-21-9	160	600	D. F. Millard.
25	SE 7-21-9	160	400	Plains Petroleum Co.
26	SW 7-21-9	160	1,100	A. G. Oliphant.
27	NE 8-21-9	160	1,800	Ohio-Osage Oil Co.

(Continued on Page 152)

Committee of Nine Asks Suggestions

Will Be Received Prior to January 10 and Public Hearings Will Be Held at Washington, Commencing January 23

By Charles E. Kern
Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Dec. 10.—The Federal Oil Conservation Board met today with the Committee of Nine appointed in response to a suggestion made by Secretary Hubert Work, chairman of the board, at the Buffalo meeting of the American Bar Association last August, to study legislative needs of the oil industry and evolve, if possible, a practical program for legislation that will insure conservation and prevent production waste in the oil industry.

When Secretary Work called this committee to order, Former Senator Chester I. Long, chairman of the committee of the mineral section, American Bar Association, announced the appointment to represent that association of Henry M. Bates, University of Michigan, Ann Arbor, Mich.; James A. Veasey, the Carter Oil Co., Tulsa, Okla., and Warren Olney, Jr., San Francisco, Calif., as members of the Committee of Nine, upon which the responsibility rests to formulate a program for oil legislation.

The other members of the Committee of Nine are the representatives of the Government: Edward C. Finney, Assistant Secretary of the Interior; Walter F. Brown, Assistant Secretary of Commerce, and Abram F. Myers, Federal Trade Commissioner, and as representatives of the petroleum industry previously announced: Thomas A. O'Donnell, California Petroleum Corp., Los Angeles, Calif.; J. Edgar Pew, Sun Oil Co., Dallas, Tex., and W. S. Farish, Humble Oil & Refining Co., Houston, Tex.

All four members of the Federal Oil Conservation Board were present. Beside Secretary Work, there were Secretary Hoover of the Department of Commerce; Secretary Dwight Fuller Davis of the War Department, and Secretary Curtis Dwight Wilbur of the Navy.

Chairman Work's Statement

Secretary Work in opening his remarks reviewed the various actions that had been taken by the oil board, the American Petroleum Institute and the American Bar Association, which led to the appointment of the Committee of Nine.

"There is urgent need," he said, "for more whole-hearted co-operation by the executives of the oil companies actuated by a more thorough realization of the common interest. The unprecedented flood of oil during the past year cannot be construed as a forecast of continued plenty or the existence of unlimited resources, but rather and very properly it should be viewed as an unnecessary draft upon the underground reserve so largely in excess of current needs as to necessitate large capital outlays for additional storage facilities.

It is the hope of this board that the Committee of Nine now about to function will survey the past, present and attempt to visualize the future in so far as it relates to petroleum development, physical, economic and legal, and determine upon a constructive program in the interest of practical conservation of the country's oil resources. There are several schools of conflicting thought concerning legislation. Both opponents and proponents of each are leaders in their respective fields and all are entitled to respectful consideration. Whether the Federal Government possesses power to legislate concerning petroleum production; whether the anti-trust laws should be amended, whether state laws should be amended to a definite degree of uniformity, are questions this Committee of Nine doubtless will consider. At this juncture may I venture the suggestion that comparatively recent important discoveries in the science of producing oil would seem to require new legislation if effective and lasting benefits are to be realized through the proper application of these discoveries to present-day production.

Legal Revision

"The problem of the ways and means of substituting co-ooperative methods for competitive methods in the development of new fields and the operation of old fields, was treated at length in this board's preliminary report of September 6, 1926. At that time this was regarded as the promising route toward effective action, and today this board regards that as one of our chief problems—the better correlation of underground property rights and the relief of competitive pressure, which is the basic element that perhaps outweighs all other factors in actual conservation. If you can devise a substitute for the present legal procedure which now expresses the primitive instincts of the chase, something that is more in keeping with present-day engineering and economic knowledge, business sagacity, financial conservation, our obligation to the public and national responsibility for our future, then you will have performed a task of constructive statesmanship.

"In suggesting the formation of this committee, I indicated that the oil industry might contribute three practical engineers to its membership. I had in mind the great engineering advances this industry has made in the understanding and conquest of the nature-made part of its problem. You realize, of course, that no legislation that may be proposed as the result of your deliberations can go far, unless the latest facts of geologic science, engineering practice, and economic demands are fully considered. Stature law must express natural and economic law, else it defeats its own ends.

"The Federal Oil Conservation Board has since its inception initiated and stimulated open discussion of all economic and engineering problems connected with the production and utilization of petroleum, and it is noteworthy that these three years have been marked by advance in every branch of the industry. Most notable have been the improvements in oil field technique—an engineering accomplishment that unfortunately has aggravated the overstimulation of production, although it is important to record that the new methods of accelerated production are expected to also increase the ultimate recovery. It is the part of industrial statesmanship, moreover, to welcome each advance in technical efficiency but also to discover equally effective innovations in the economic management of the oil business.

"Sufficient crude oil is now in storage to supply the refineries for six or eight months. The oil industry has had forced upon it the heavy burden of carrying above ground in steel and concrete tanks an excess supply that could have better remained below ground in its natural reservoirs. I am sure that industry and government alike realize that every oil pool discovered, developed and drained reduces by one the pools available for future needs.

"Excess production of an expendible resource like petroleum is never advantageous. Too often the small operator is forced to the wall in a period of low prices, while the large corporation suffers only decreased profits. Moreover, the reduction in price of crude oil at the well only in part reaches the buyer of gasoline at the filling station, and the lowered prices to the consumer in 1927 are expected to be offset in future years by the much higher prices incident to depleted supply.

Overstimulated Production

"The evils of overstimulated production and the consequent far-reaching economic disturbance, accompanied by the tardy recognition of the practical phases of conservation, emphasize the importance of legislation vesting in the Secretary of the Interior some discretion in the matter of leasing and developing the oil resources of the public domain, and particularly the oil held in trust for the Indians. The secretary is now mandated to offer one-tenth of the entire unleased area of Osage lands annually, which results in throwing upon the market periodically large volumes of oil regardless of overproduction or market conditions. Such modification of law seems necessary if the Indians are to obtain the greatest ultimate benefit from their oil resources, and is also important as a measure of conservation. On the public domain there are no unleased proven oil areas of substantial importance. Many permits for wildcatting are annually issued but very little production has resulted recently therefrom. It has been the policy of the Interior Department, however, to aid in the restriction of production from existing leases on the public domain by affording relief from drilling requirements and permitting cessation of production on existing wells whenever the public interest will not suffer therefrom.

"This co-operative committee of lawyers, engineers and Government representatives should consider only legislation whose purpose would be to protect our oil deposits against unnecessarily rapid depletion and the public against future high prices of those oil products that must continue to be dominant factors in our industrial and social life."

Board Members Speak

The secretary called upon other members of the oil board for comment upon the work before them.

Secretary Wilbur of the Navy spoke of the interest of the Navy in oil from the standpoint of national defense. He said that aviation simply means the gasoline can. If the gasoline can is empty, he said, then aviation will cease to function. The Navy itself in its operations is woven about the barrel of petroleum.

Not only is petroleum a necessity for the propulsion of ships but also for machinery and small boats. So, as the Navy is built today, if the oil supply gives out the entire system of operating the Navy must go. Of course, the Navy is looking after other fuels, such as pulverized coal and shale oil but as the situation is today it would be disastrous

(Continued on Page 98)

HOOVER LOOKS FOR CONCRETE RESULTS FROM COMMITTEE

WASHINGTON, D. C., Dec. 13. The deliberations of the committee of nine on oil conservation probably will produce "concrete results" stated Secretary of Commerce Hoover, member of the Federal Oil Conservation Board. This is especially true in view of the fact that the oil committee seem impressed with the necessity of conserving the oil resources of the country, the secretary added.

He further stated that the problem before the industry is largely whether state or Federal legislation is needed.

MUCH CONSTRUCTIVE WORK DONE DURING INSTITUTE CONVENTION

By Andrew M. Rowley

The eighth annual convention of the American Petroleum Institute which closed in Chicago last Thursday night lived up to the announcement it would be a "working meeting." Oil men generally feel more progress was made at that convention of the Institute towards solving problems affecting the petroleum industry than at any previous meeting of oil men.

A summary of the main accomplishments of the convention follows: Adoption by the Board of Directors of a resolution stating the belief legislative needs would be fulfilled with the passage of enactments by oil producing states and by the Federal Government legalizing agreements by operators to curtail crude oil production to requirements; decision to establish a Division of Development and Production Engineering; recognition of the apparent need and desirability of more diversified application of petroleum and its products to industrial and commercial life and the appointment of a committee to investigate this question; appointment of a committee to consider the desirability of making a co-operative survey of marketing conditions; the naming of a committee to investigate the program of the Oil Heating Institute with a view of closer co-operation with that association; acceptance of the Marland report on the prevention of waste of gas and the adoption of a resolution favoring enactment of laws to prevent the waste of such gas by the various oil producing states in which natural gas is being unnecessarily wasted; and considerable progress in bringing to completion the work of the different committees on standardization of drilling and producing equipment, uniform methods of accounting, fire prevention, oil pollution, etc.

Resolution on Marland Report

In accepting the report of the Marland Committee and the resolution presented by that committee (published in The Oil and Gas Journal of December 8), the Board of Directors adopted the following resolution:

"WHEREAS, the prevention of the waste of natural gas found in oil producing formations is of paramount importance in connection with the economical production and conservation of oil, and "Whereas, the waste of gas cannot be prevented in an oil pool where there is diversified ownership, so long as any one operator, through ignorance of the above principle, or through selfish disregard for the correlative rights of his neighbors or through desire to capture more oil than underlies his property, disregards the above principle and continues to waste gas and refuses to co-operate with his neighbors in adopting preventive measures,

"Now, therefore, be it resolved that we, the Board of Directors of the American Petroleum Institute, favor the enactment of laws to prevent the waste of such gas by the various oil producing

(Continued on Page 150)

Combating Corrosion in Refineries

Use of Chemicals, Alloys, Electroplating and Noncorrosive Metals All Have Merit. Equipment Design Important

By Dr. Gustav Egloff*
Universal Oil Products Co.

Probably the worst corroding oil in the United States is that being produced in the Luling Field of Texas. A refiner informs me that he would rather run 3 bbls. of Amarillo crude than 1 of Luling. Luling crude has a sulphur content of approximately 0.7 per cent. Despite the relatively low sulphur content of this oil, it is exceedingly active in its corroding properties. When stored in tanks it will evolve primarily hydrogen-sulphide, which reacts with the tank roof and the sides which are exposed to the gasses. Tank roofs and sides have been known to corrode away in a few months. In an endeavor to combat the corrosive gases evolved from Luling crudes, experiments have been conducted using roofs and also the upper plates of the storage tanks of aluminum. The wall thickness of the aluminum is approximately one-fourth of an inch and the aluminum roof and sides have stood up very well. This is a relatively costly procedure, yet effective and satisfactory and will probably pay for itself in a short time.

It is significant to again point out that corrosion is not at all a function of the percentage of sulphur which may be present, but is dependent upon the chemical composition of the sulphur compounds in the oil and how they break down during distillation at atmospheric or superatmospheric pressure. As an illustration, Luling, Texas crude oil containing 0.7 per cent sulphur is high corroding, whereas Somerset, Texas, crude containing 1.62 per cent sulphur is not nearly so high a corroding oil as Luling. Hence the refiner is blending Somerset crude with Luling in the proportion of one-third Somerset to two-thirds of Luling. This procedure has cut down the corrosion rate during distillation of the mixture. As to whether the corrosion rate is cut down proportionally to the mixture has not been worked out.

One refinery running on a mixture of Luling and Somerset crude oil, distilling both at atmospheric pressure and under pressure has a scrap pile of corroded steel which is appalling. However, that progress has been made is certain with the injection of hydrated lime into the system. The corrosive properties of the crudes have been materially cut down by the use of this material. The adhering material closest to the shell is composed primarily of calcium sulphate, and the portion sticking to the coke is primarily calcium oxide. It was discovered that during the steaming out period of the plant and during cooling the coke deposit in the reaction chamber, that prior to the injection of lime the water would be acid, and since lime injection the water was alkaline. The factor of alkaline water over acid water should cut down the corrosion rate in the system.

Luling crude contains approximately 0.7 per cent sulphur, and 8 per cent of a naphtha of 51.5 degrees A.P.I. gravity, with an initial boiling point of 174 degrees Fahrenheit and endpoint of 437 degrees Fahrenheit. Somerset crude contains 1.62 per cent sulphur and 30 per cent gasoline.

Combating Corrosion

During the past year some advances have been made in combating the corrosion properties of sulphur oils in refining equipment. The co-operative spirit in the oil industry and companies engaged in fabricating material for combating corrosion in refining equipment has been splendid. That progress is being made is certain along the line of

1. Chemical injection.
2. Alloys.
3. Electric-plating.
4. Surfacing with corrosive resisting metals.

Our knowledge is rather scant as to what all the corroding substances are in crude oils. But it is generally agreed that hydrogen sulphide and hydrochloric acid gas are the primary agents destroying equipment in the oil industry. That other substances are present which deteriorate steel parts is certain. Such gases as sulphur dioxide or trioxide are present producing iron sulphite or iron sulphate. Oxygen is usually present during distillation of oils, and oxidizes steel to iron oxide despite the reducing atmosphere.

Nitrogen ammonia or other nitrogen compounds under the temperature conditions prevailing during distillation either at atmospheric or superatmospheric pressure produce a case hardening action on the steel surface. This gives an effect of nitralloying. Whether there are oxides of nitrogen present has not been determined but they probably are and would have a corrosive action upon the system. Just what effect hydrogen, carbon monoxide, carbon dioxide or carbonic acid has upon steel under high temperature conditions has not been worked out in cracking equipment. That hydrogen has some effect is reasonably certain from boiler work.

I am wholly convinced that the explanation of why Luling or Panhandle crude oils react with steel so vigorously is due to the type sulphur compounds present. It may well be that there are nitrogen or other compounds present which produce a material corrosive effect. The problem of corrosion in distillation equipment has not been attacked from the angle of other type compounds than hydrogen sulphur or hydrogen chloride.

Chemical Reagents

The injection of chemicals for the purpose of neutralizing corrosive compounds has met with marked success in some cases. Chemical reagents such as ammonia or ammonium hydroxide are excellent neutralizing agents for hydrochloric acid gas.

$$NH_3 + H\,Cl \rightarrow NH_4Cl$$

$$NH_4OH + HCl \rightarrow NH_4Cl + H_2O$$

Under low temperature conditions ammonia or ammonia hydroxide will neutralize hydrogen sulphide, but the ammonium sulphide decomposes at the temperatures prevailing in a cracking still.

Hydrated lime, sodium hydroxide, and sodium carbonate or mixtures thereof have been effective in cutting down corrosion. Hydrated lime has been quite effective in many cases, but in some instances it appears to have no special beneficial effect in cutting down corrosion.

Sodium hydroxide has some disadvantages in that it may produce a corrosive condition of its own, by reacting with the steel, producing sodium ferrite or ferrate, and, also an embrittlement condition of the steel, in a similar manner to its effect in boilers. Sodium carbonate has similar objections to its use for with moisture present carbonic acid gas and sodium hydroxide are formed under distillation conditions.

That there are metals and alloys known which would solve the corrosion problem in the refinery is known, but in some cases their cost is at the moment prohibitive, but it may well work out that it will be necessary to commercially use them. When one considers the shut down periods and fire hazards during distillation of corrosive oils it may be true economy to build large chambers of noncorrosive alloys, such as chrome iron or the like.

Heating Tubes

In the topping and cracking operation in refining sulphur crude oils, one means of combating shut down periods due to corroded heating tubes is to establish an index or rate of corrosion. Then to build tubes with increased wall thickness, and allow for corrosion with a proper factor of safety. However, this appears to be a makeshift arrangement and not wholly satisfactory. The tendency to increase the wall thickness of steel tubes to better withstand the internal corrosion and external oxidation, and produce longer tube life, is plainly evident. This method of attack is believed, by a number of refiners to be the most economical solution.

Tubes manufactured of varying percentages of chromium in iron have been tested extensively during the past year. Chrome iron tubes are giving excellent service in a number of refineries and apparently the increased cost over that of steel tubes is warranted. Chrome iron tubes have been in constant service in several plants for over one year, during the processing of high corroding sulphur oils at high temperatures and pressures, and appear to be in as good condition as when first installed.

There was practically no internal corrosion or external oxidation of the chrome iron tubes. These chrome iron tubes did not warp as much as steel tubes used under similar conditions. They also take a high internal polish readily when cleaned with flue cleaners. The tendency for coke to adhere to the tube walls is markedly less than when using steel tubes. The higher the chromium content of a tube the higher the corrosion resisting properties, but as the percentage of chromium increases they become more brittle and their shock resisting properties become low.

A development of seamless tubes during the past year is to use a chrome nickel iron alloy, which under test conditions gives excellent corrosive resisting properties. A tube made of 18 per cent chromium and 8 per cent nickel gives very good corrosion resisting alloy.

The ultimate answer from an industrial point of view has not been given as to the percentages of chromium or nickel, or combinations thereof, which will give the greatest economic results in combating corrosion. A great deal of experimental work is yet to be done. However, chrome iron tubes have corrosive resisting properties far superior to steel tubes. But, chrome iron tubes have other properties, such as lower shock resisting properties than steel tubes, and a tendency toward embrittlement. Yet they are the best corrosive resisting alloys that have been tested out under service conditions which has come within my experience.

Chromium plating of steel tubes has promise of working out in a satisfactory manner in combating corrosion, particularly the external portion of the tube in contact with the products of combustion. Due to salt or coke depositing in the internal portion of the heating tubes and adhering firmly thereto, mechanical cleaners are used which have an abrasive action on the tube, which has a tendency to break through the chromium plating. This brings into relief that chromium plating on the inside of a tube is a real problem to make it adhere closely and resistant enough to withstand the abrasive action of flue cleaners.

Calorized tubes are being fabricated with thick walls and are apparently giving satisfaction in some tube still installations, for resisting internal and external corrosion.

Return Bends on Tubes

Difficulties of no small degree have been experienced with return fittings during the past year. The use of ordinary cast steel fittings is becoming more general. They resist corrosion much better than do ordinary forged steel headers. One test revea'ed that over 3,100 operating hours, during which time approxi-

(Continued on Page 87)

*American Petroleum Institute, Chicago.

SUMMARY OF CORROSION PROBLEM FROM STANDPOINT OF REFINING

By Dr. Gustav Egloff

1. Corrosion is not a function of the percentage of sulphur compounds present in the crude oil. Crude oils such as Luling or Panhandle crude corrode several times faster than oils having twice their sulphur content. The blending of high sulphur crude oils with lower sulphur crudes will not necessarily mean that the corrosive properties will be proportionate to their percentage present in the mixture but may give a higher corrosion rate than if the oils were handled alone.

2. Chemical injection of ammonia, hydrated lime, sodium hydroxide or sodium carbonate cuts down corrosion. Ammonia or ammonium hydroxide neutralizes hydrogen chloride and some sulphur compounds. Hydrated lime is effective to cutting down corrosion over 50 per cent with some oil's and is apparently not so effective with other oils. Lime is effective in cutting down the difficulty in coke removal from heating tubes and reaction chambers.

3. Caustic soda or sodium hydroxide is not as good a reagent to use as lime due to its reaction with steel at the temperatures employed during distillation and also causing embrittlement of the steel. It also produces a denser coke more difficult to remove from the heating tubes.

4. The use of aluminum for tank covers not alone for storage but look boxes, treater tops, pipe linings, should be effective when corrosive oils are to be handled. Hydrogen sulphide does not react at all with aluminum.

5. Steel tube life may be increased by increasing wall thickness and established index rate of corrosion.

7. Chrome iron tubes have been in service over a year and no signs of corrosion internal and external have been noted. Chrome iron tubes have relatively low shock resistance and tendency toward embrittlement is high particularly with high percentages of chromium.

7. The coke adherence to chrome iron tubes is markedly less than to steel.

8. Chrome nickel iron alloys have been experimented with but no conclusion can be drawn at the present time.

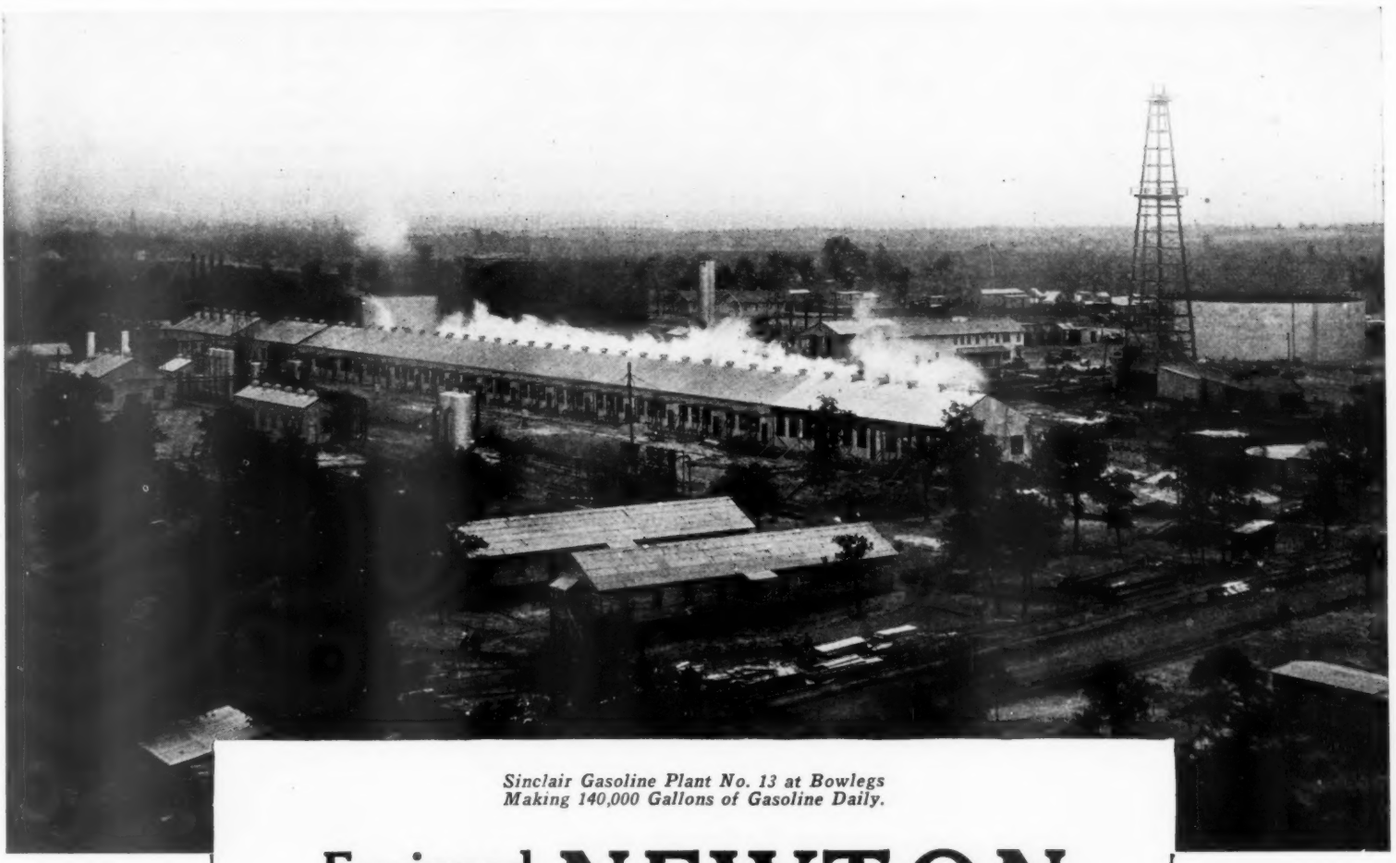
9. The ultimate answer from an industrial standpoint has not been given as to the percentages of chromium or nickel, or combinations thereof, which will give the greatest economic results in combating corrison. A great deal of experimental work is yet to be done.

10. Chromium plating of tubes internally has not worked out in a satisfactory manner under service conditions. The flue cleaners have a tendency to cut through the plating and there is also a tendency for it to peel off. Tubes which were externally plated withstood the products of combustion oxidation very well.

11. Thick wall calorized tubes are ap-

(Continued on Page 95)

NEWTON PROCESS IS THE PROFIT PROCESS



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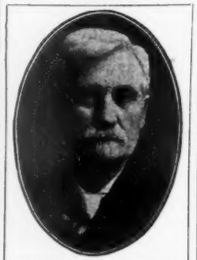

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VERDICT FOR THE OIL INDUSTRY

Once more the oil industry has been investigated and with the usual result.

There is not another industry in the country that has been investigated so often and so critically by so many different sets of investigators yet not one accusation has been sustained.

Consider the hopeful language of Senator Trammell's resolution presented to the Senate early in 1926 directing the Federal Trade Commission to investigate whether petroleum prices were arbitrarily made by agreement and manipulation, presumably for unconscionable profits.

The newspaper reader of that day was led to expect that the Commission would ferret out the iniquities of the industry and lay them bare before Congress which would take over control.

Surely if one-half of what Senator Trammell and those who thought like him believed of the oil business were true it would be an easy matter to prove it with the authority of the Government.

No one can say that the investigation was not as thorough as the Senator and his friends hoped. The oil companies who were harassed with questionnaires and by individual inquisitors and compelled to devote months of work by oil company employes to filling out reports while their regular business was interrupted can testify to the persistency of that inquiry.

If there was any phase overlooked it cannot be imagined.

But what has been the outcome? After a year and a half of the most searching investigation the Federal Trade Commission makes official report that "no recent evidence of agreements or manipulations of any size among large oil companies to raise or depress prices of crude petroleum or refined products was found."

So far from finding that "price increases were arbitrarily made and unwarranted," the Commission reports that in the latter part of each of the five years, 1922, 1923, 1924, 1925 and 1926, "overproduction led to drastic price reductions for both crude and gasoline."

So far as the charge of manipulation was concerned the Commission says that its inquiry on the contrary "tends to show that price movements over the longer periods were controlled by conditions of supply and demand."

For example, there were rising prices for crude and gasoline at the opening of each of the five years cited of which the report says "the outstanding factor at the beginning of each of these years seems to have been a general anticipation on the part of leaders of the oil industry that crude petroleum production and imports for the coming year would be insufficient for domestic refinery requirements and that the reserves of crude petroleum in storage would not be fed into the market unless current production and imports proved insufficient to supply the demand."

Instead, the turn in prices stimulated oil operators to seek new production and the outcome was an overproduction which before the end of each year had sent prices down. At the close of 1926 this overproduction loomed so great that prices for both crude and refined products have been kept at new low levels throughout 1927.

If there had been any power within the industry to manipulate the market it would surely have been justifiably employed to check such ruinous fluctuations in prices and to stabilize the market.

If this plain demonstration of cause and effect fails to convince the Senator the Commission's further report must be conclusive.

It finds that there is no interlocking of directorates such as would have an appreciable tendency to unify any considerable part of the industry, that "controlling ownership of the several Standard oil companies has been widely dispersed;" that "so far as this factor is concerned there is no longer unity of control of these companies through community of interest."

Instead of marketing companies confining their business to their separate territories the Commission finds there are numerous exceptions, citing competition between the Standard of New York and the Standard of California on the Pacific Coast, the Standard of New York and the Standard of New Jersey in Texas and Arkansas, and between the Standard of Indiana and the Standard of New Jersey, Standard of New York, and Standard of Kentucky.

Thus the Commission officially recognizes what has long been known as a fact within the industry and even discovers further that "some of the largest companies hold themselves ready to sell gasoline in tank cars to jobbers without restriction as to the territory of resale, thus making it possible for the independent jobber to resell in competition with them."

The Commission might have gone further and observed that the competition for volume of sales, for gallonage regardless of price, has been the most remarkable feature of the gasoline marketing business in these years, a condition that would have been impossible had there been any control of prices.

Nor did the Commission find unfair trade practices. "Complaints as to unfair competition," the report says, "are not frequently encountered, the independent jobbers being more concerned about price cutters in their own ranks. The large companies are not complained of as price cutters."

"The wide spread which frequently exists between tank car and tank wagon prices," the Commission adds, "is the cause of a great deal of the so-called price cutting that occurs at times in many parts of the country."

Better co-operation within the industry, freed from threats of time-wasting investigations, could remedy this trouble by stabilizing production and prices. Most of the evils from which the industry has suffered, in producing, refining and marketing, have been endured because it has felt itself prohibited from attempting to remedy them by the necessary concerted action.

Perhaps this report of the Federal Trade Commission's year and a half of investigation, establishing as it does so many of the points in the oil industry's own case, will win the industry an opportunity as President Coolidge advised, to "determine its own future."

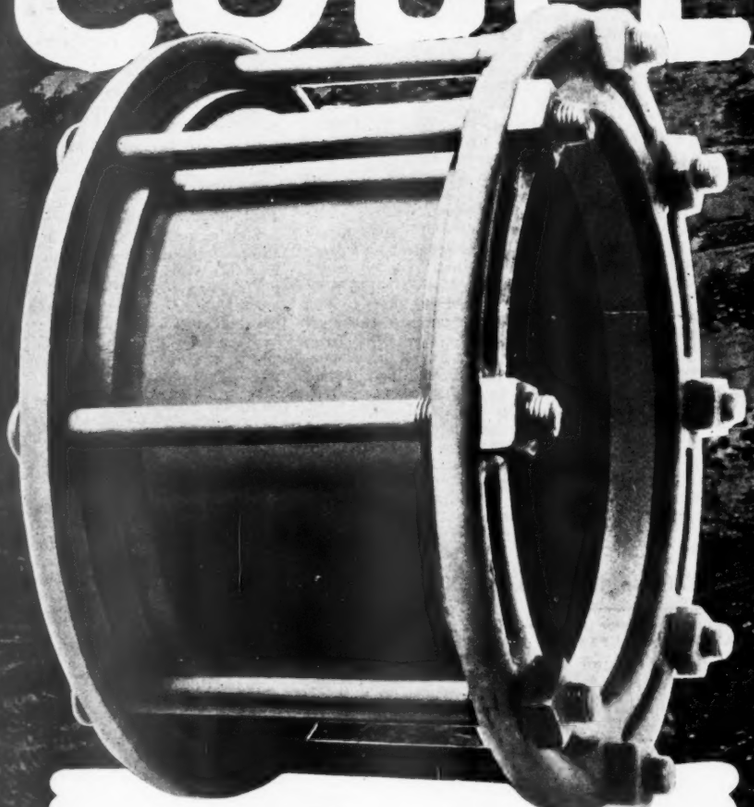
At any rate it comes at an opportune time, at the opening of a session of Congress which has been reported all set to start another attack on the oil industry just when the Federal Oil Conservation Board is trying to help the industry to evolve a practical program.

The crowning blow to the critics of the industry is the terse summary in the official report of the commission that—

"The profits of the petroleum industry were much higher before and during the war than in recent years."

And as "The Oil Industry's Answer" has shown from the Government's own figures, gasoline has been the cheapest of all commodities, before, during the war and since.

DRESSER COUPLINGS



Here is another illustration of the great strength and utility of Dresser Couplings. It is a 30" water line, or flume, in Utah—installed in connection with a Hydro-Electric plant.

S. R. DRESSER MANUFACTURING CO.
Bradford, Penna.

Dominate!

Yates Well Flows 300 Barrels an Hour

Pure Oil Co. Holdings Sold to The Texas Company.
Pennsylvanian Gas Showing 28 Miles Southwest of Yates

By C. D. Lockwood
Staff Correspondent, North and West Texas

FORT WORTH, Tex., Dec. 12.—A well in the Yates Pool of Pecos County that ran wild one night, flowing 300 bbls. an hour all over the country from a depth of 602 feet, the sale of the Pure Oil Co.'s holdings in Winkler, Crane, Upton and Pecos Counties to The Texas Company and a good Pennsylvanian gas showing in a well located about 28 miles southwest of the Yates Pool were the outstanding features of the news from West Texas during the past week.

Production of the Permian Basin district reached the unprecedented figure of 255,642 bbls. daily, an average of 220 bbls. per well. This includes all of the small production in the older districts such as Mitchell, Howard, Jones and other counties as well as the high-powered areas of Winkler, Pecos, Upton and Regan and so forth.

Rapidly increasing pipe line facilities have been responsible for the big gain in Winkler County's production which rose from 38,842 to 50,331 bbls. this week, and will probably go still higher next week. This county was the cause of the West Texas increase since Church-Fields-McElroy Pool dropped off about 7,000 bbls. and the Yates Pool gained only about 3,400 bbls. daily.

Active Operations

A survey of this week's drilling report shows that the Hendricks Pool of Winkler County has 100 active operations and that the Yates Pool has no less than 85 in action. When you consider the fact that 39 producing wells in the Hendricks Pool last week averaged 1,290 bbls. per day each and that the 81 producers in the Yates Pool could average far better than that if allowed to remain partially open, you can figure out the West Texas situation without much trouble.

Following is a record of the Yates and Hendrick Pools in tabular form:

	Yates	Hendrick
Locations	22	13
Rigs or machines	8	12
Rigging up	13	9
Drilling	32	29
Fishing	3	6
Shut down	1	3
Standardizing or standing cemented	0	15
Making oil but not yet completed	6	13
Total	85	100

In the Yates Pool, practically all locations are to be drilled as soon as locations can be cleared and machines provided. In the Hendrick Pool, too, most of the locations are scheduled for early drilling but some of them will be held up as long as possible.

Texas Co.-Pure Oil Deal

One of the largest acreage transactions ever made in West Texas was consummated last week when The Texas Company acquired 3,107 acres of lease in Winkler, Crane, Upton and Pecos Counties from the Pure Oil Co. This deal included 800 acres in the Hendrick Pool, Winkler County, 80 acres in the Church-Fields Pool of Crane County, 1,180 acres in the McCamey-Hurdle district of Upton County, and 1,047 acres in the Yates area of Pecos County.

One producer in Upton County makes about 60 bbls. daily and one in Winkler County averaged 485 bbls. the past week, pinched in. The Winkler County holdings, however, are considered extremely valuable, being ranked as perhaps the best of any company except the Southern Crude Oil Purchasing Co. Two wells are now drilling on the Pure's "A" Lease in Section 41, Block B-5, and three on the "B" lease in Section 34.

The 80 acres in Crane County occupies the E half SE of Section 38, Block 30, and is considered inside the proven area but no wells have been started on it.

The Pecos County acreage included in this deal comprises at least two pieces which are supposed to be "in the money." These are the east 200 acres of Section 107, Block 194, south of the Kirby & Edson well, and all of Section 104, same block, east of the Simms Oil Co.'s high-powered tract.

No consideration was made public but it undoubtedly ran into big figures because of the potential value of this acreage. The trade gives The Texas Company large potential production in West Texas and it is understood that the Texas Pipe Line Co. will immediately start construction on the line from Winkler County which the Pure Oil Co. has been figuring on for some time. However, the new owners plan to run this line from the Hendrick Pool to McCamey on account of more advantageous freight rates. Future plans also include extending a line to Port Arthur. Fifteen days were allowed for examination of titles and if approved the deal becomes retroactive to 7 a. m., December 10.

All camps, automobiles and other equipment, as well as a 55,000-bbl. storage tank in Section 34, Block B-5, Winkler County, are included in the deal.

Sells Winkler County Oil

Independent Oil & Gas Co. is launching a heavy drilling program in Winkler County since closing a contract with New Orleans Refining Co. (Roxana) for all of its production in that area up to 15,000 bbls. daily. It is understood that the contract will run to April 1, and that Independent will receive the market price for its oil delivered to the loading rack between Monahans and Pyote. The maximum and minimum prices, however, are 70 cents and 35 cents per barrel. The market price is now 60 cents. Independent is laying an 8-inch welded line from its leases in the field to the Texas & Pacific Railroad and is building a 75-car structural steel loading rack in the SE SW of Section 60, Block F, G. M. M. & A. Survey, Ward County. It has built rigs for four of the remaining six locations on its 80 acres in Section 34, Block B-5, where it now has two big producing wells.

The geology of the Winkler County Field is rather badly distorted now since the Sheldon & Burden well in the SW cor. SE of Section 28, Block B-5, has run much lower structurally than many expected. Monday it was drilling at 2,715 feet in lime but the exact top of the lime could not be learned.

Most Watched Test

Amerada Petroleum Corp.'s No. 1 Walton, in Section 48, Block 26, has had more bad luck. It is perhaps the most closely-watched test in the entire field, being about 3 miles northeast of production and apparently running high. It encountered some gas at 2,400 feet which blew the tools up in the hole. The tools were fished out and drilling was resumed but at 2,411 feet the same performance was repeated and this Monday the crew was still fishing. This well had pure gray lime from 2,335-2,400 feet, except for a small streak at 2,393 feet which carried about 10 per cent anhydrite and some authorities are now considering 2,335 feet as the top of the lime.

Hendrick Pool Lines

The total pipe line capacity out of the Hendrick Pool will probably total 167,500 bbls. daily shortly after the first of the year. Humble Pipe Line Co. will start laying its 8-inch to the field from its Crane County station right after the holidays, and The Texas Company will begin construction of a line, probably 8-inch, from the field to McCamey immediately. Ocean Pipe Line Co.'s 4-inch, Roxana Petroleum Corp.'s 10-inch trunk line to Oklahoma, Atlantic Oil & Refining Co.'s 10-inch line to Midland, Independent Oil & Gas Co.'s 8-inch to Monahans, and Gulf Production Co.'s 8-inch to its McElroy station in Crane County are the new lines which figure in this total.

Magnolia Petroleum Co. has two 80,000-bbl. tanks completed in the Hendrick Pool, and two more under construction.

Southern Crude Oil Purchasing Co. is shipping about 9,000 bbls. daily from its rack at Wickett, in Ward County. This oil is going to Whiting, Ind., the Standard's Sugar Creek refinery and Roxana's plant at Wood River, Ill. It also has a new contract to furnish the Louisiana Oil & Refining Co. at Shreveport, La., with 7,000 bbls. daily.

Yates Pool Gusher

The most remarkable well in the Yates Pool is Mid-Kansas Oil & Gas Co. and Transcontinental's No. 8 Yates-C, situated one location north of its famous sister, No. 2-C. The new phenomenon touched a shallow pay at 602 feet last Wednesday night and immediately started painting the surrounding country with oil. It is estimated to have flowed at the rate of 300 bbls. an hour from midnight until along toward morning when it gradually subsided and flowed by heads. The crew finally managed to get a control head on it just about 8:30 in the morning.

A peculiarity of this well was revealed by a test made the next day. No. 2-C, which produces from a pay about 1,000 feet deep, was shut in entirely and the new well, No. 8-C, at 602 feet, immediately started flowing about 200 or 300 bbls. an hour again, flowing steadily. When No. 2-C was partially opened again, No. 8-C went back to flowing by heads. Last Saturday morning's gauge on No. 2-C was 3,015 bbls., pinched to its proration allowance; the gauge on No. 8-C, at 602 feet, was 1,458 bbls., still at 602 feet.

WILDCAT OPERATIONS IN WEST TEXAS

Week ending December 10, 1927

ANDREWS COUNTY

Company, farm and location—	Remarks—
George B. Calvin's (was Calvin & Belt's) No. 1 Ratliff & Bedford, C NE Sec. 16, Blk. A-54	Hole full fresh water 1,055 ft., top salt 1,610 ft. total depth 2,575 ft.; will resume drlg.
J. S. Cosden's No. 1 Ratliff & Bedford, C SE Sec. 8, Blk. 73, Public School Land	Top salt 1,585 ft.; shut down 4,007 ft., contract depth; will deepen.
Deep Rock Oil Co.'s No. 1 W. J. Harris, C SE Sec. 12, Blk. A-46, Public School Land, elev. 3,167 ft.	Hole full fresh water 1,050 ft.; shut down 1,260 ft.; preparing to resume drlg.
B. B. McKennon's (was Neff et al's) No. 1 J. S. Means, C SE Sec. 12, Blk. A-35, Public School Land	Shut down for 8-in. 1,385 ft.
A. G. Carter & Zweifel's No. 1 Cowden, C SE Sec. 18, Blk. A-52, Public School Land Sur., elev. 3,156 ft.	Top salt 1,375 ft.; encountered pocket of air 3,635 ft.; drilling 4,810 ft.

BORDEN COUNTY

Marland Oil Co.'s No. 1 G. E. McDavid, C SW Sec. 156, Blk. 25, H. & T. C. Sur.	Total depth 635 ft.; 15-in. casing parted.

BREWSTER COUNTY

Cady & Keller's No. 1 Decies	Rig on ground.
J. M. Hickey's No. 1 Jackson & Harmon, NE cor. Sec. 182, Blk. 9, G. H. & S. A. Sur.	Shut down 510 ft.
Mid-Kansas O. & G. Co.'s No. 1 Turney, Sec. 77, Blk. 213, T. & St. L. Sur.	Drlg. lime 2,200 ft.
Reese & White's No. 1 Kimbale, C NE Sec. 204, Blk. 9, G. H. & S. A. Sur.	Drlg. 1,220 ft.; hole full water.
Van McPhail's No. 1 McIntyre, SE cor. Sec. 59, Blk. 352, 7 mi. S of Alpine	Shut down 1,025 ft.; crooked hole.
Wilcox & Anderson's No. 1 Gage, Sec. 8, Blk. 300, T. C. R. R. Sur.	Drlg. 1,650 ft.

COKE COUNTY

W. H. Brown et al's No. 1 W. L. Foster, SE cor. Sec. 142, Blk. 2, H. & T. C. Sur., elev. 2,222 ft.	Shut down 2,250 ft
Danciger O. & R. Co.'s No. 1 Mrs. Byrnes, Clinton Sur.	Drlg. anhydrite 3,110 ft.
Lipan Oil Co.'s No. 1 S. M. Conner, Sec. 71, Blk. 2, H. & T. C. Sur.	Show oil 1,224-34 ft.; shut down lime 3,317 ft.
Lipan Oil Co.'s No. 1 E. C. Rawlings, Sec. 390, Blk. 1-A, H. & T. C. Sur., elev. 2,750 ft.	Total depth 2,236 ft.; shut down.

CONCHO COUNTY

Parks & Lawson's No. 1 Schultz	Show oil 925 ft.; shot with 40 and 30 qts.; no results; shut down 1,090 ft.
The Exploration Co.'s No. 1 Hartgrove, Blk. 240, J. Schouch Sur., elev. 1,718 ft.	Drlg. lime 738 ft.

CRANE COUNTY

Crane Dev. Co.'s No. 1 J. R. Mosley, S cor. Sec. 18, Blk. 6, H. & T. C. Sur.	Drlg. 600 ft.
Duffey & Gault & Brown's No. 1 Cowden, CNL S half NE Sec. 22, Blk. X, C. C. S. D. Sur.	Hole full fresh water 620-25 ft.; top salt 895 ft.; top lime 2,729 ft.; show oil 3,030 ft.; drlg. 3,220 ft.
Gulf Prod. Co.'s No. 3 W. N. Waddell, SE cor. NE Sec. 3, Blk. B-25, Public School Land	Drlg. 830 ft.; hole full water.

(Continued on Page 147)

WEST TEXAS COMPLETIONS

Crane County

Humble Oil & Refining Co.'s No. 13 University, Section 38, Block 30, University Land, flowed 500 bbls. at 2,830-2,960 feet. It was shot with 100 quarts at 2,900-60 feet and increased to 770 bbls. Independent Oil & Gas Co.'s No. 3 University-A, Section 46, Block 30, flowed 250 bbls. at 2,860-2,910 feet and increased to 500 bbls. following a 100-quart shot at 2,816-86 feet; No. 5 University-A flowed 132 bbls. natural at 2,805-98 feet and made 400 bbls. when shot with 100 quarts.

Marland Oil Co.'s No. 1 Union Land, Section 28, Block 35, H. & T. C. Survey, was abandoned at 2,265 feet.

Prairie Oil & Gas Co.'s No. 5 State-Lasseter, Section 47, Block 30, University Land, was good for 240 bbls. after a shot of 60 quarts placed from 2,875 to 2,990 feet. Top of pay was 2,940 feet.

Howard County

Magnolia Petroleum Co.'s No. 8 G. O. Chalk swabbed 5 bbls. from sand at 1,595-1,617 feet and following a 40-quart shot

swabbed 36 bbls. the first 24 hours.

Irion County

Cash Dollar's No. 1 G. H. Bird was abandoned at 1,250 feet (corrected depth).

Jones County

Phillips Petroleum Co.'s No. 2 J. C. Mason swabbed 75 bbls. the first 14 hours from sandy lime at 2,520-27 feet, total depth 2,529 feet, and was completed.

Pecos County

Marland Oil Co.'s No. 5 Yates-A flowed 400 bbls. per hour at 950-94 feet; No. 6 Yates-A made 65 bbls. hourly at 995-1,038 feet, open; No. 7 Yates-A flowed 20 bbls. an hour, 3 per cent water, at 1,061-1,110 feet; No. 8 Yates-A swabbed 365 bbls. the first day, 9 per cent water, at 991-1,032 feet.

McMan & Marland's No. 11 Yates flowed 1,065 bbls. at 1,190-1,240 feet, having increased at 1,237 feet.

Mid-Kansas & Transcontinental's No. 4 Smith-Taylor made 1,557 bbls. in 12 hours through one 4-inch line from pay at 1,195-1,400 feet; No. 9 Yates-A flowed 150 bbls. an hour at 970-1,009 feet; No. 8 Yates-B flowed 1,471 bbls. in 10 hours, flowing open, from sand at 998-1,063 feet; No. 15 Yates-B flowed 1,174 bbls. in 8 hours through one 4-inch line from 965-1,044 feet; No. 7 Yates-C flowed 152 bbls. an hour, open, at 990-1,027 feet.

Roxana Petroleum Corp.'s No. 2 Smith flowed 20 bbls. hourly, open, at 1,525-78 feet; No. 3 J. H. Tippett flowed 179 bbls. an hour at 1,525-1,703 feet.

Val Verde County

Douglas Oil Co.'s No. 1 Sellars was dry and abandoned at 4,280 feet.

Winkler County

Cranfill & Reynolds' No. 2 Ida Hendrick-A was deepened from 2,983 feet to 3,010 feet and completed for 1,500 bbls. The deepening didn't help production. Top of pay was 2,850 feet.

Humble Oil & Refining Co.'s No. 1 Ida Hendrick-B was completed for 3,550 bbls. First pay was topped at 2,936 feet and the best pay was found at 2,964-68 feet.

Landreth Production Corp. and Roxana Petroleum Corp.'s No. 1 Grisham-Hunter flowed at the average rate of 213 bbls. an hour for the first 13 hours at total depth of 3,013 feet in pay topped at 2,860 feet, following a shot of 260 quarts at 2,910-3,013 feet. A full 24-hour gauge could not be obtained because Nos. 1 and 2 were flowing into the same tank, but both together made 5,198 bbls. the first day No. 1 was on production.

Magnolia Petroleum Co. temporarily abandoned the cellar for No. 6 Ida Hendrick.

Southern Crude Oil Purchasing Co.'s No. 1 T-67 Ida Hendrick-C, which made 1,006 bbls. natural at 2,915-67 feet, was shot with 135 quarts at 2,900-67 feet and flowed 60 bbls. an hour afterward. Nos. 1, 2 and 4 on this lease flow into the same tanks. Same company's No. 4 T-67 Ida Hendricks-C increased to 800 bbls. as a result of a shot of 240 quarts at 2,934-3,028 feet. It had made 480 bbls. natural at 2,934-3,030 feet. First pay in this well was found at 2,735 feet.

RANGER DISTRICT

Brown County

McMurray and associates' No. 16 Newton was completed with an initial production of 8 bbls. from 1,312-22 feet. Selby Oil & Gas Co.'s No. 22 Ellis came in making 500 bbls. initially from 1,332-45 feet. Wheelock and Collins' No. 4 Smith made 75 bbls. initial from 1,333-49 feet and No. 5 Smith produced 550 bbls. initially from 1,330-48 feet. Lamb's No. 1 Gwathney was drilled to 1,526 feet and was plugged back to 1,517 feet. The well was shot with 60 quarts at 1,499 to 1,513 feet and is making 75 bbls. of oil and 150 bbls. of salt water.

Callahan County

Prairie Oil & Gas Co.'s No. 1 Long made 51 bbls. initial after a 45-quart shot at 1,687 to 1,740 feet.

Coleman County

Magnolia Petroleum Co.'s No. 1 Henderson made 700,000 feet of gas at 717-29 feet and was completed at that depth as a gas well.

Eastland County

Latchshaw and associates' No. 1 Harlin made 25 bbls. at 1,496 to 1,516 feet. Prairie Oil & Gas Co.'s No. 3 Parson made 3 bbls. initially after a 40-quart shot at 1,532-66 feet.

NORTH CENTRAL TEXAS AND WEST TEXAS

Estimated Daily Production for the Week Ending December 10, 1927

Ranger District—	Prod.
Brown County	17,890
Callahan County	4,098
Coleman County	1,110
Comanche County	1,450
Palo Pinto County	458
Ranger	8,611
Shackelford County	5,100
Stephens County	8,760
Total Ranger district	47,477
Decrease	1,714
Wichita Falls District—	
Archer County	21,810
Baylor County	80
Clay County	540
Cooke County	4,890
Jack County	1,285
Montague County	9,755
Throckmorton County	1,150
Wichita County	27,460
Wilbarger County	10,220
Young County	12,100
Total Wichita Falls district	89,270
Decrease	1,067
Total North Central Texas	136,747
Decrease	2,781
West Texas District—	
Big Lake Field	23,313
Crane County	103,011
Crockett County	2,828
Ector County	12
Glasscock County	S. D.
Howard County	6,079
Jones County	1,399
Loving County	65
Mitchell County	3,385
Pecos County	47,031
Runnels County	85
Scurry County	45
Upton County	18,058
Winkler County	50,331
Total West Texas district	255,642
Increase	6,641
Total North and West Texas	392,389
Increase	3,860

WICHITA FALLS DISTRICT

Archer County

Burns and associates' No. 1 Richardson was dry and abandoned at 1,301 feet. Burton and Grisham's No. 1 Farmer was dry and abandoned at 1,512 feet. Johnson and associates' No. 2 Ward was dry and abandoned at 1,104 feet. Roberts Oil Corp.'s No. 3 Gravey is a 40-bbl. pumper at 764-71 feet. Wilson's No. 2 Farmer is pumping 57 bbls. from 1,512½-14½ feet. Atlantic Oil Producing Co.'s No. 1 Taylor was dry and abandoned at 1,845 feet. L. T. Burns and The Texas Company's No. 1 Turbeville B was dry and abandoned at 1,510 feet. F. Darr and associates' No. 2 Edwards was dry and abandoned at 1,437 feet. Shappell Oil Co.'s No. 12 Wilson B made 10 bbls. initial from 886 to 901 feet.

Cooke County

Camp-Heydrick and Oil Operators Trust Co.'s No. 2 Bayer is an abandoned location. Lesh-McCall and associates' No. 1 Inglish was dry and abandoned at 2,273 feet. Murchison Oil Co.'s No. 1 Harris estate was dry and abandoned at 1,799 feet. Simms Oil Co. and associates' No. 1 Bowers was dry and abandoned at 1,801 feet. Sun Oil Co.'s No. 7 Hacker is an 18-bbl. pumper at 1,668-82 feet.

Jack County

Marland Oil Co. and Zoch's No. 1 Cherryholmes was dry and abandoned at 2,540 feet. Dale Oil Corp.'s No. 4 Hanna was dry and abandoned at 550 feet.

Montague County

Arco Oil Co.'s No. 1 Salmon C was dry and abandoned at 1,423 feet.

Throckmorton County

Associated's No. 2 Stacy is making 9 bbls of oil and 6,000,000 feet of gas from lime at 3,330-51 feet, steel line measurement.

Wilbarger County

Barnes' No. 2 Ancell is pumping 72 bbls. of oil and 5 bbls. of water from 1,724-25 feet and 1,728-33 feet. Fain and McGaha's No. 1 Waggoner L is pumping 80 bbls. of oil from 2,372-83 feet. Keltz's No. 2 Zipperle was temporarily abandoned at 1,475 feet. Muse and Robinson's No. 1 Womack was dry and abandoned at 2,109 feet. Fain and McGaha and associates' No. 1 Mathews was drilled to a total depth of 2,550 feet and plugged back to 1,506 feet and junked. The well tested 60 bbls. on the pump from sand at 1,484-92 feet.

Wichita County

Consolidated and The Texas Company's No. 1 W. T. Waggoner was dry and abandoned at 2,233 feet. Consolidated, Continental and The Texas Company's No. 1 G. B. Ancel was dry and abandoned at 1,788 feet. A. T. McDannald's No. 1 C. A. Allingham was dry and abandoned at 2,174 feet. John O'Neil's No. 1 A. A. Carl was dry and abandoned at 1,928 feet. O'Donohoe and Gates' No. 2 Nove is pumping 20 bbls. from 492-97 feet. The Texas Company's No. 340 W. T. Waggoner was dry and abandoned at 2,250 feet. A. T. Wolf's No. 1 Ferguson was dry and abandoned at 1,805 feet.

Young County

Roberts Oil Corp.'s No. 2 Keen is a 6-bbl. pumper at 825½-36 feet and the same company's No. 3 Keen was dry and abandoned at 900 feet.

Another Yates Gusher

Another big Yates Pool gusher worthy of mention is Mid-Kansas & Transcontinental's No. 7 Yates-B, in Section 61, Block 1. It is just northeast of No. 2-B and is in previously proven territory but it flowed 230 bbls. in nine minutes last Friday through one 4-inch line. Top of the pay was 1,132 feet and first flow, 15 bbls., was staged at 1,165-95 feet. Progressively increasing with depth it flowed 52 bbls. an hour at 1,205-28 feet, 265 bbls. hourly at 1,239-48 feet and 337 bbls. per hour at 1,259-62 feet. Total depth is 1,268 feet where it tanked the 230 bbls. in nine minutes, and was shut down.

On the north edge of the field, Gulf Production Co.'s No. 1 Yates was estimated good for 7,200 bbls. daily at 1,353-1,540 feet. It flowed 315 bbls. in one hour December 8 and was completed. This well looked bad just before it hit the pay, having encountered a pocket of sulphur water at 1,330-32 feet but this was soon exhausted.

Gulf Production Co.'s No. 2 Smith in Section 28, Block 194, just south of No. 1, flowed 95 bbls. an hour at 1,423 feet and is shut down for tankage but will be deepened. Pay was topped at 1,295 feet.

Gulf's No. 6 Yates is located 330 feet north and 3,805 feet east of NW cor., Section 102, Block 194, but in Runnels County School Land; No. 7 is 330 feet north and 990 feet east of NW cor., Section 103, Block 194, but also in the School Land.

Pennsylvania Oil in Pecos

Transcontinental Oil Co.'s No. 1 Blackstone & Slaughter, Section 29, Block 129, F. & St. L. Survey, has some of the Pecos County operators a little excited. It drilled 10 feet of brown sand topped at 3,560 feet and picked up 250,000 feet of sweet gas at 3,565 feet in this sand. Monday it was trying to straighten a bad hole. This sand is situated in the Pennsylvanian formations and may forecast Pennsylvanian oil in Pecos County.

The second trunk line outlet from the Yates Pool direct to tidewater will be completed before long and the pipe line capacity raised about 15,000 bbls. daily. Illinois Pipe Line Co. has started laying 10-inch line east from Del Rio toward the Humble's Lytle Station, southwest of San Antonio, and is looping its 8-inch between Del Rio and the field, as well as increasing the pump stations. Reports are conflicting regarding the terminus of the Illinois line from Del Rio to the coast, but it seems headed toward Houston. It was rumored around McCamey last week that this line would tie into Humble's 12-inch at the Lytle Station and that Humble would loop its line from there to the Ingleside. Humble Pipe Line Co., however, denies this. On the other hand, Illinois Pipe Line Co. may parallel the Humble line from Lytle Station to Ingleside.

New Locations

In Terrell County, Deep Rock Oil Co. has a new location for No. 1 H. C. Noelke, 330 feet from south and east lines of Section 4, Block A-2, T. C. R. R. Survey.

In Ward County, Selby Oil Co. and others' No. 1 A. G. Dooley and others, located at the center of the common line of Sections 96 and 85, Block F, G. M. M. & A. Survey, will be an interesting test to watch. It is a new location this week.

Thirteen new locations were made in the Hendrick Pool of Winkler County this week. Twenty new tests were staked out in Pecos County. These, added to 10 in miscellaneous counties, make a total of 43 new locations.

In Crockett County, Young & Donnelly's No. 1 Shannon, C Section 11, Block 9, has increased to 10,000,000 feet of gas and has started spraying a little dark oil.

In Howard County, Marland Oil Co.'s No. 1 Clay-E is drilling at 3,450 feet with a hole full of water. Magnolia Petroleum Co.'s No. 1 Dora Roberts, deep lime producer, which was opened up last week and tanked better than 2,800 bbls. in 24 hours, is still flowing approximately 2,500 bbls. daily. Magnolia made locations for four new tests having had one other started already, and is moving in material for two of them.

DAILY AVERAGE PRODUCTION

Crane County

Company, Lease—	Wells	B bls.
Church et al:		
University	1	61
Church & Weekly:		
University	3	1,462
Church & Fields:		
Duoil-University	1	135
Eastland Oil & Collett:		
University	8	8,336
Gulf Prod. Co.:		
All leases	65	20,592
Humble O. & R. Co.:		
University	13	5,608
Independent O. & G. Co.:		
University-A	5	1,322
University-B	1	1,053
Landreth Prod. Corp.:		
Cowden-Anderson	16	12,225
Magnolia Pet. Co.:		
University-Hardwicke	10	2,825
University-O'Keefe	12	2,259
State-Lasseter	3	124
Magnolia Pet. Co. et al:		
University	4	68
Totals Magnolia Pet. Co.	29	5,276
Pecos Oil Co.:		
University	11	4,015
Prairie O. & G. Co.:		
University	6	74
State-Lasseter	5	*5,783
Totals, Prairie O. & G. Co.	11	6,857
Simms & Atlantic:		
University-A	9	3,705
University-B	1	58
University-C	8	*16,079
University-D	9	*6,224
University-E	1	205
Totals, Simms & Atlantic	28	26,271
Stidham & Thrasher:		
University	1	10
The Texas Company:		
University	1	215
University-Beasley	1	24
Tidal Oil Co. et al:		
University-B	2	67
University-C	1	38
University-E	1	65
University-F	7	*3,530
University-G	2	*351
University-H	2	39
University-I	8	*5,574
Totals, Tidal Oil Co. et al	23	9,664
Totals, Church-Fields-McElroy Tool	218	102,126

Miscellaneous Crane County

Gulf Prod. Co.:		
Waddell	1	13
Independent O. & G. Co.:		
Hughes	1	6
McMan O. & G. Co.:		
Hughes	2	79
Marland Oil Co.:		
All leases	16	538
The Texas Company:		
King	9	249
Union Land-F	1	0
Miscellaneous totals	30	885
Grand totals Crane County	248	103,011

Pecos County

Allsman & Bell:		
River Bed	3	323
California Co.:		
Yates	6	6,144
Smith	3	1,126
Total California Co.	9	7,270
Gulf Prod. Co.:		
Smith	2	....
Yates	2	....
Totals, Gulf Prod. Co.	4	6,509
Humble O. & R. Co.:		
M. A. Smith	3	614
M. A. Smith-B	2	1,619
Totals, Humble O. & R. Co.	5	2,233
Kirby Pet. & Edson:		
J. H. Tippett	1	0
Marland Oil Co.:		
Yates-A	8	1,782
McMan & Marland:		
Yates	11	3,484
Mazda Oil & Savoy:		
Smith	1	162
Mid-Kansas & Transcont.:		
Smith-Taylor	4	2,270
Yates-A	8	7,065
Yates-B	8	4,980
Yates-C	5	2,477
Yates-D	1	1,488
Yates-E	1	0
Totals, Mid-Kansas & Trans.	27	18,280
Red Bank Oil Co.:		
Smith	2	245
Roxana Pet. Corp.:		
Smith-A	2	167

(Continued on Page 150)

Bowers Pool Holds Up Panhandle

Big Wells Keep Total Production From Sliding. Carson County Gains but Hutchinson and Moore Drop

By James H. Dameron
Staff Correspondent, Texas Panhandle

AMARILLO, Tex., Dec. 12.—Freezing weather slowed up Panhandle operations during the past week. However, production was not affected and the daily average production showed an increase of 135 bbls. over the previous week.

The Bowers Pool in Gray County climbed to 19,255 bbls. last week, an increase of almost 1,000 bbls. Big wells in the pool which are holding up good are figuring largely in keeping Panhandle's production from sliding Carson County also showed a gain but Hutchinson County was off 835 bbls. Moore County was off production. Wheeler County dropped 65 bbls. while Potter County stayed in the picture with its 30 bbls. daily.

Production by counties for the week ending December 12 is as follows:

Carson County	8,115
Gray County	19,255
Hutchinson County	57,775
Moore County	Off
Potter County	30
Wheeler County	1,185
Total this week	86,360
Total last week	86,225
Increase	135

The Bowers Pool was without any new completions last week but Operators Oil Co.'s No. 1 W. Jackson looks good and will probably be completed during the current week. The well was bottomed at 2,984 feet. To get the production from the first pay perforated 6-inch was set at 2,925 feet through that pay and the well swabbed 1,000 bbls. the first 12 hours. After that the gas was bradenheaded and the well flowed 1,800 bbls. the first 24 hours. The best pay was in granite wash at 2,967-84 feet. The well has been shut down and will be cleaned out and completed.

McIlroy Pool

In the McIlroy Pool of Hutchinson County, White and Lane's No. 1 Ellis Cockrell has dropped down to 500 bbls. of oil daily and is showing 2 per cent water. The well flowed 2,000 bbls. initially from 2,980-81 feet and is to be drilled deeper. Their No. 2 on the same lease is shut down at 2,930 feet for storage. Roxana Corp.'s No. 2 Cockrell was shot with 300 quarts and production was boosted from 50 bbls. daily to 225 bbls. daily. In Carson County the Last Chance Oil Co.'s No. 1 McConnell averaged 105 bbls. daily last week and will probably be deepened.

Pipe Line and Stocks

The monthly pipe line and stock report for the Panhandle showed that pipe line runs decreased 160,000 bbls. during November while tank car shipments increased 1,252 cars over October and crude stocks decreased 387,238 bbls.

Actual receipts from the field during October were 70,196 bbls. daily or 3,035,592 bbls. during the month. The total receipts, including crude drawn from storage, was 83,104 bbls. daily or 3,422,830 bbls. during the month. Deliveries during November amounted to 3,967,673 bbls. Crude in storage totaled 17,755,301 bbls. The total available storage in the field is 24,114,500 bbls., leaving 6,359,199 bbls. of storage room.

Humble company is the only company building storage in Panhandle at present and is building 165,000 bbls. of steel storage in Carson County. Magnolia company has more oil in storage than any other company, with the Bartex company running a close second. Those companies with a million or more barrels in storage are as follows:

Bartex	4,270,000
Gulf	3,895,000
Humble	1,210,000
Magnolia	4,475,000
Marland	2,375,000
Prairie	2,945,000
Skelly	1,155,000

Crude shipments by pipe lines were as follows: Gulf-Magnolia south, 20,472 bbls. daily, or 614,158 during the month; Humble company south, 29,669 bbls. daily, or 890,082 during the month, and Prairie company to Oklahoma, 4,666 daily, or 140,005 during November. Of the Gulf-Magnolia shipments 210,084 bbls. was for the Gulf company and 404,074 bbls. was for the Magnolia company.

The 5,297 tank cars shipped were as follows, giving company name, to whom shipped and destination.

Atlantic, Crown Central, Houston	123
Bartex, Roxana, Houston	216
Bartex, Standard, Neodesha, Kans.	297
Champlin, refinery, Enid, Okla.	9
Champlin, Peerless Ref., Chanute, Kan.	20
Bell (estimated)	130
Empire, refinery, Texas City	70
Humble, Humble, Baytown	1,286
Marland, Marland, Dalhart, Tex.	2
Pantex P. L., Crown Central, Houston	354
Pantex, Gilliland, Albuquerque, N. M.	10
Plains P. L. Co. (estimated)	625
Prairie, Imperial, Petrolia, Can.	50
Roxana, Amer. Pet. Co., Houston	780
Roxana, refinery, Roxana, Ill.	283
Roxana, Standard, Neodesha, Kans.	5
Sinclair, refinery, Houston	911
Sinclair, Standard, Wood River, Ill.	1
Toronto, Tor. P. L. Co., Toronto, Can.	25
Total	5,297

There was little change in Panhandle's controlled and free oil which is given below by counties with the number of producing wells. The figures, oil drawn from storage.

County—	Number Wells	Free Oil	Control'd Oil	Total
Hutchinson	988	25,644	32,797	58,441
Carson	161	5,247	2,461	7,708
Gray	171	14,275	1,423	15,698
Wheeler	35	1,229	.....	1,229
Potter	1	28	.....	28
Total	1,356	46,423	36,681	83,104

Natural gasoline production dropped 242,600 gallons to 8,642,407 gallons in November. Natural gasoline storage increased 277,212 gallons to 6,530,137 gallons. Approximately 19,000 gallons of the product was destroyed by fire.

Phillips Petroleum Co. led all other manufacturers and Skelly Oil Co. was next in order. Only one plant was shut down during the month and that was the Associated Producers Gasoline Co.'s Hutchinson County plant. There were 886 cars shipped from the Panhandle area during the past month.

Natural gasoline production by counties, follows:

Hutchinson	6,082,453
Potter	43,338
Carson	1,388,914
Gray	737,867
Wheeler	389,835
Total	8,642,407

Seven new locations were reported from the Panhandle at the close of the week. In Gray County five were reported as follows: The Texas Company's No. 1 McLarty and others, 330 feet from the SW cor. E half NW Section 1, Block 1, A. C. H. B. Survey. Same company's No. 2 H. M. Davis, 330 feet each way from the SW cor. NW Section 86, Block B-2. Danciger Oil & Refining Co.'s No. 8 W. Jackson, 330 feet each way from the NE cor. NW Section 88, Block B-2. Operators Oil Co.'s No. 2 W. Jackson, 330 feet each way from the NW cor. N half NE Section 88, Block B-2. The Texas Company's No. 4 J. B. Bowers, 330 feet each way from the SE cor. SE Section 93, Block B-2. In Randall County, Westbrook Oil Co.'s No. 1 J. Beckman, 330 feet from the SW cor. SE NE Section 46, Block B-5. In Hutchinson County, Holmes and Quinn's No. 1 J. K. Quinn, 330 feet from the SW cor. Section 9, Block 3, B. S. & F. Survey.

Only six completions were reported in the Panhandle counties.

Hutchinson County

Gordon and associates' No. 1 J. M. Sanford topped the pay at 2,987 feet and bottomed at 3,009 feet and swabbed 85 bbls. of oil and 50 bbls. of salt water the first 24 hours. The well averaged 65 bbls. daily during the week. Roxana Petroleum Corp.'s No. 2 Ellis Cockrell was shot with 300 quarts at 2,953 to 3,045 feet and made 225 bbls. initially. The well was formerly a 50-bbl. producer.

Moore County

Shadler Brothers' No. 1 John Lowery was drilled to a total depth of 3,653 feet with a small showing of oil at 3,605 feet. The well was completed at 2,980 to 3,375 feet making 25,000,00 feet of gas.

Carson County

American Refining Co's No. 1 Burnett estate E, topped the pay at 3,144 feet and bottomed at 3,149 feet. The well made 45 bbls. of oil and 60 bbls. of water initially and is pumping 10 bbls. of oil and 20 bbls. of water.

Gray County

Young and associates' No. 1 Holmes was bottomed at 3,385 feet and plugged back to 3,250 feet. It is producing 15 bbls. daily from the old pay at 3,110 and 3,165-80 feet. Rensaul Petroleum Co.'s No. 1 Huselby is flowing 15 bbls. per day from granite wash pay at 2,695 to 2,780 feet.

WILDCAT OPERATIONS IN PANHANDLE

Week Ending December 10, 1927

ARMSTRONG COUNTY

Company, Well, Farm, Name, Section and Block—	Remarks—
United Oil & Trust Co.'s No. 1 J. P. Reck, Sec. 162, Blk. 4, H. & G. N. Sur.	Drlg., 1,740 ft.

BAILEY COUNTY

Gibson Oil Co. et al's No. 1 Webb Miller, NE cor. Sec. 15, League 186, Swisher County school land	Rig.
Humble O. & R. Co.'s No. 1 W. H. Fuqua, C E ½, Sec. 117, Blk. A, Melvin, Blum & Blum Sur.	Drlg., 2,080 ft.

BRISCOE COUNTY

C. S. Rice's No. 1 J. C. Anderson, SE cor. NW NW, Sec. 22, Blk. B-3, B. S. & F. Sur.	S.D., 1,620 ft.

CARSON COUNTY

Amatex Dev. Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y	T.A., 2,110 ft.
Marston Oil Co.'s No. 1 J. L. Noel	S.D., 3,064 ft.
Navajo Oil Co.'s No. 1 E. S. Polling, Sec. 22, Blk. 2-Y	Set, 6-in., 2,496 ft; S.D., 2,712 ft.
The Texas Company's No. 2 C. R. Garner	T.D., 2,003 ft; pull big pipe.
The Texas Company's No. 1 Chas. Kalka	Drlg., 2,020 ft.
Last Chance Oil Co.'s (formerly R. M. Waggoner's) No. 1, J. W. McConnell (was completed for 37,000,000 ft. of gas, 2,255-2,500 ft.)	Top pay, 3,250 ft; D.D. to 3,290 ft; aver. 105 bbls. last week; will deepen.
Willis et al's No. 1 Burnett est., C SE SW NW, Sec. 111, Blk. 5	Drlg., 2,888 ft; 5,000,000 ft. gas.

CASTRO COUNTY

Colorado O. & R. Co.'s No. 1 M. Slemmons, SW cor. Sec. 78, Blk. M-17, B. S. & F. Sur.	Rig blown down.
Mystery Oil Co.'s No. 1 J. I. Crum, SE cor. NE, Sec. 333, Blk. M-6, S. K. & K. Sur.	S.D., 510 ft. for casing.

CHILDRESS COUNTY

Continental Oil Co.'s No. 1 B. P. Smith, C NE, Sec. 14, Blk. 9	Wtr., 2,450 and 2,800 ft; 100 ft. sulphur wtr., 3,350-55 ft; drlg., 3,525 ft.
Hoover & Calloway's No. 1 O. L. Tucker, Sec. 736, Haggard Sur.	Spudded and S.D.
C. L. Sloane et al's No. 1 B. P. Smith, Sur. 43, F. P. Knott lands	Set 6-in. pipe, 2,902 ft; S.D., 3,600 ft.

COTTLE COUNTY

Exploration Co.'s No. 1 Richards	Spudded and S.D.

DALLAM COUNTY

Wood Bros. et al's No. 1 Capitol Synd., Sec. 19, Blk. 17.	Hole full wtr., 4,007-4,127 ft; T.D., 4,188 ft; S.D. until spring.
Marland Oil Co.'s No. 1 A. M. James, C SW W ½, Sec. 21, S. H. McElreath Sur.	S.D., 2,445 ft. for wtr.
Marland Oil Co. et al's No. 1 Capitol Synd., Sec. 36, Blk. 18, Capitol Synd. land	Drlg., 3,330 ft.

DONLEY COUNTY

A. T. Drlg. Co.'s No. 1 F. E. Harrington, Sec. 39, Blk. 3-C	1,200 ft. wtr., 3,115-22 ft; show gas, 3,140-60 ft; dry G.W., 3,260-93 ft; S.D., 3,498 ft.

FLOYD COUNTY

Expltn. Co.'s No. 1 S. H. Boone, C. C. H. Johnson Sur.	Spudded and S.D.
Expltn. Co.'s No. 1 Land & Cattle Co.	S.D., 780 ft. for orders.
Hoffer Oil Corp.'s No. 1 Nelson	Spudded and S.D.

GRAY COUNTY

Archer Blake's No. 1 Turneaux, SW cor. Sec. 111, Blk. B-2	Drlg. water well.
Bay Shore Oil Co.'s No. 1 C. W. Bradford, Sec. 143, Blk. 2-B	T.D., 2,666 ft; S.L.M. shot with 10 qts. to loosen bit and 8-in collapsed; fishing.
Camel Oil Co.'s No. 1 B. E. McKinney	Rig.
Cole O. & G. Co.'s (was Magdalene Oil Co.'s) No. 1 J. E. Williams, Sec. 17, Blk. 1	S.D., 3,860 ft.
Danciger O. & R. Co.'s No. 4 W. Jackson	Drlg., 2,960 ft.
Danciger O. & R. Co.'s No. 5 W. Jackson	Drlg., 420 ft.
Danciger O. & R. Co.'s No. 6 W. Jackson, Sec. 88, Blk. B-2, H. & G. N. Sur.	Rigging up.
Danciger O. & R. Co.'s No. 7 W. Jackson, Sec. 88, Blk. B-2, H. & G. N. Sur.	Rigging up.
Danciger O. & R. Co.'s No. 8 W. Jackson, NE cor. NW, Sec. 88, Blk. B-2	New loc.; bldg. rig.
Donley Gray Oil Co.'s No. 1 J. W. Gordon, Sec. 79, Blk. 3	Wtr. 3,380 ft. and 3,420 ft; show oil; H.F.W., 3,650; S.D., 3,750 ft.
Delaney et al's No. 2 Jackson	Drlg., 2,690 ft; 3,000,000 ft. gas.
Edwards et al's No. 1 E. J. Case, NE cor. Sec. 182, Blk. B-2, H. & G. N. Sur.	70,000,000 ft. gas, 2,512-2,630 ft; drlg. by bit, 3,028 ft.
Gardner et al's No. 1 G. H. Saunders	Cellar.
Gibson Oil Corp.'s No. 2 J. B. Bowers	Drlg., 2,500 ft.
Gurnsey Oil Co.'s No. 1 B. E. McKinney	Drlg., 2,400 ft.
Lefors Pet. Co.'s No. 1 Leach, Lefors Townsite	10,000,000 ft. gas, 2,440-50 ft; 70,000,000 ft. gas, 2,625 ft; T.D., 2,650 ft; trying to pull 8-in. and it parted; S.D.
H. C. McCauley et al's No. 1 J. Morse, Sec. 2, Blk. 46, H. & G. N. Sur.	Top lime, 1,770 ft; drlg., 2,320 ft.
Magnolia Pet. Co.'s No. 1 J. Bowers	Drlg., 1,000 ft.
Magnolia Pet. Co.'s No. 1 J. J. Wall, NE cor. Sec. 162, Blk. 3, I. & G. N. Sur.	Rigging up.
Midwest Expltn. Co.'s No. 1 J. Bowers	T.D., 2,540 ft; moving boiler back.

(Continued on Page 147)

Dunn Safety Automatic Spring Hooks

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DUNN SAFETY *means* DONE SAFELY

Cold Weather Aids Seminole Decline

Output Dropped to Low Mark of 378,000 Bbls. but Recovered Some of the Loss Later. Operations Being Curtailed

By J. L. Dwyer
Staff Correspondent, Oklahoma Fields

The north wind took a strong hand in governing the output of the Greater Seminole area during the past week, when weather which approached zero aided in causing a decline of 25,000 bbls. on one day. The cold weather played havoc with the output of the wells which were producing by means of the air-gas lift, and the fittings and pipes around the well heads were frozen tightly. The low mark of the field was 378,000 bbls. which was made on Thursday of last week. The week-end saw the output still below 385,000 bbls. with much of the damage done by freezing repaired.

The newest zone in the Seminole area to command attention is the territory around the Barnsdall Oil Co.'s new well in Section 14-8-5. This well is 6 miles south of the Earlsboro Pool, and 5 miles to the west of the Bowlegs area. It is No. 1 Fife, NE cor. NW, Section 14-8-5. It found the sand 4,293-95 feet, and began flowing 110 bbls. an hour. The well was pinched in under the Seminole operators' agreement, and it is reported that the Barnsdall company will shut the well in completely, opening it once a month and allowing it to flow 3,000 bbls. or an amount similar to a daily output of 100 bbls. over the month.

The new well has added another chapter to the history of Seminole, and furnishes another spot which must be reckoned with in calculating the 1928 outlook for that area. In co-operating with the committee, the owners of leases around the new strikes have displayed an excellent spirit, and this is proved by the fact that although there are five separate and distinct regions which are capable of being developed into a good daily production, not a single rig has been built around any of them, and the elimination of heavy drilling activity has been perfect. This is probably the first time in the history of the Mid-Continent field that a similar shutdown has been effected, and the current price of oil has had a great deal of bearing upon the situation. It is evident that no company or individual is anxious to develop a high-powered lease with 880,000 wells under the current posted price.

Production by Pools

The Greater Seminole fields on Sunday and Monday of this week produced by pools as follows:

	Sunday	Monday
Little River	39,344	39,742
Bowlegs	113,254	112,518
Earlsboro	*51,564	151,768
Seminole	56,108	56,689
Searight	22,541	21,779
Barnsdall	1,396	*577
Total, 1,047 wells	385,107	383,294

*Pinched in.

For the past three weeks there has been a steady decline averaging about 30 per week in the number of active operations in the Greater Seminole area, and as the wells have been shut down, the number of idle drilling tools has been on the increase. They seem destined to be shut down until next spring when the five spots around wells which are now shut in, should come in for a vigorous campaign of activity. Less than 200 operations are now active in the Greater Semino'e Field, whereas 60 days ago over 550 were on the active list. The decline in number of operations has been divided over all pools.

East of Little River

With 80 completed wells, the Little River Pool is still below 40,000 bbls. daily production, and seems destined to remain around that figure. Little River seems to be a sharp, and for some an expensive, disappointment, and unless some unusual finds are struck there in the next two weeks, the majority of operations will be close to the sand, with no new work in sight. The region to the east of Little River in the direction of the Mid-Continent Petroleum Corp.'s well in Section 5-7-7 will probably be the scene of a heavy play next spring, but for the remainder of the winter this area should be comparatively quiet except for the one well which is being drilled by permission of the committee on account of a short term lease.

The wells in the Seminole area produced by the following methods on December 4:

	Air-gas Flow	Pump	Swab	Off
Bowlegs	188 9	30	23	38
Little River	49 5	11	4	10
Earlsboro	116 42	45	32	39
Seminole	112 7	149	26	25
Searight	24 23	13	1	7
Total	489 86	248	86	119

Wells Making Water

Bowlegs	62
Little River	30
Earlsboro	90
Seminole	121
Searight	21
Total	324

Pipe Line Movement

The movement of oil by pipe lines dropped during the past week on account of the declining production, but for the week ending December 8, the daily average was as follows:

Company—	Bbls.
Barnsdall	7,747
Mid-Continent	6,900
Consolidated	364
Empire	17,863
Gulf	37,381
Magnolia	40,925
Oklahoma	53,525
Ozark	11,779
Prairie	55,270
Pure	1,397
Shaffer	4,129
Sinclair	47,644
Texas	28,429
Tidal	4,735
White Oak	1,100
Total	319,254

The oil moved out of the field by tank cars for the same period was an average of 17,141 bbls. per day.

In the Hall-Donnelly area of Creek County, the Independent Oil & Gas Co. has completed No. 4 Wolfe, NE cor. SW, Section 18-14-10, for 850 bbls. from the Wilcox sand found at 3,421-41 feet.

In the Bristow area of the same county, the Bu-Vi-Bar Petroleum Co.'s No. 1, SE cor. SW, Section 3-15-8, is flowing 50 bbls. daily from 2 feet in the Dutcher sand found 3,222-24 feet.

In the Allen Pool of Pontotoc County, the Louisiana Oil Refining Co.'s No. 1 Reed, NE cor. NE, Section 18-5-8, is flowing 400 bbls. daily from sand 2,675-96 feet.

SEMINOLE PRODUCTION

Production of the Seminole Pool by Companies and Leases on Friday, December 9.

Little River

Company, Farm—	Wells	Prod.
Amerada:		
Fore	5	675
Nitey	4	3,050
Blackwell:		
Nitey	8	5,127
Carter:		
Fish	2	1,590
Continental:		
Cosar	2	790
Gypsy:		
Campbell	2	
Nungee	1	60
Pottey	1	977
Wadsworth	1	15
Independent:		
Harris	1	108
Indian Territory:		
Campbell	1	231
Dungan	3	3,664
House, M. A.	1	746
House, W. E. "A"	1	70
House, W. E. "B"	3	2,324
Jackson	3	2,953
McCulla	3	1,248
Nitey	5	2,565
Phoebe, "A"	1	812
Phoebe, "B"	2	1,371
Reed	1	231
Sokethche	2	1,554
Mid-Continent:		
Wadsworth	7	1,595
Smith	1	40
Philmack:		
Davis	1	1,340
Prairie:		
House	4	2,360
Roxana:		
Smith	1	52
Sinclair:		
Cosar	1	60
Snowden-McSweeney:		
Tiger	2	338
Superior:		
Wadsworth	1	21
Texas:		
Coker	3	835
Tidal:		
House	2	2,040
Johnson	1	72
Total	81	38,894

Bowlegs

Amerada:		
Rasco	8	3,690
Atlantic:		
Baker	4	844
Fleet	4	850
Grayson	2	1,600
Jones, A.	3	140
Jones, C.	2	474
Barnsdall:		
McNac	1	35
Murrow	4	1,154
Carter:		
Bowlegs	3	1,380
Burden	3	675
Harjoche	6	845
Hilly	2	930
Jones	3	3,270
McGeisey	1	15
Melisse	1	1,800
Walker	3	615
Wise	12	8,270
Empire:		
Lacy	6	673
Wise	2	1,162
Gypsy:		
Bowlegs	1	335
Bradley	1	52
Brown	1	50
Cumsey	4	2,397
Dosar	1	
Grayson	4	2,167
Harjoche	1	260
Henderson	1	
Jones	1	
Walker	8	2,765
Wise	3	55
Independent-Marland:		
Coker	1	
Indian Territory:		
Barnett	2	624
Billington	5	689
Bowlegs	11	1,267
Burden	1	
Davis	4	2,346
Fay	6	4,933
Goforth	11	1,808
Hull	1	
Livingston	11	5,114
Lizzie	2	973
Walker	8	1,103
Wilmont	4	1,029
Work	1	
Youngblood	2	11
Magnolia:		
Davis, B. F.	1	644
Davis, M.	1	644
Hammond	2	
Rhoades	2	1,027
Van Buskirk	1	416
McColloch:		
Bowlegs	3	285
Mid-Continent:		
Baker	4	2,372
Bowlegs	1	150
Hutke	1	
Smith	4	935
Minnehoma:		
Bowlegs	3	157
Prairie:		
Gahagan	4	1,128
Harber	7	3,625
Jones	3	1,890
Templeton	4	4,305
Whitney	4	179
Pure:		
Reed	15	5,440
Struthers "D"	3	1,154
Struthers "E"	1	5
Struthers "F"	2	1,197
Roxana & Houston:		
Taylor	6	1,641
Shaffer:		
Lacy	3	712
Sinclair:		
Bowlegs	1	95
Cumsey	2	4,495
Ellen	6	3,126
Harjo	3	1,295
Jones	6	5,461
Taylor	4	4,566
Walker	4	1,250
Texas:		
Reed	9	5,545
Tidal:		
Grayson	3	1,215
Harjoche	6	2,315
Twin States:		
Jones	2	60
Total Bowlegs	287	113,694

Earlsboro

Amerada:		
Anderson	3	45
Cowden	8	2,300
Rodgers	3	800
Barnsdall:		
Brown	4	3,056
Bruner, F.	2	686
Bruner, N.	4	3,177
Cudjo, C.	1	29
Davis, D.	3	2,956
Davis, J.	4	2,803
Davis, M.	3	3,087
Gibson	7	3,156
Hearn	1	7
Ingram	7	6,417
Pack	4	208
Peter	4	242
Sango	2	767
Sebolka	1	846
Sullivan, H.	2	213
Sullivan, Harjo	3	71
Wasutke	4	1,156
Carter:		
Davis	1	1,165
Payne	3	925
Sango	3	7,466
Continental:		
Kays	2	565
Spencer	4	2,135
Crosbie:		
Bryant	2	450
Empire:		
Barker	1	2,575
Edmundson	3	2,432
Gypsy:		
Bruner	4	5,000
Carter	10	6,960
Earl	1	40
Hunick	1	420
McFarland	1	
Noble	4	6,405
Peter	6	197
Sango	4	11,307
State	4	1,660
Independent:		
Bruner	4	205
Sullivan	4	35
Knapp	5	3,549
Gaines	2	3,070
O'Dell	4	100
Inter Ocean:		
Payne	1	20
Magnolia:		
Bryant	6	2,228
Cowden	4	53
Dixon	1	142
Edmundson	3	194
Holmsley	8	7,913
Ingram	1	35
Lena	5	54
Seay	8	1,781
Simpson	4	340
Sparks	7	3,670
Sullivan	3	1,026
Mid-Continent:		
McCumber	7	1,635
Mid-Kansas:		
Anderson	4	665
Phillips:		
Dunnaway	1	30
Graham	7	350
Prairie:		
Baker	1	30
Davis	4	1,320
Graham, C.	2	525
Graham, O.	4	2,970
Stidham	13	8,725
Roxana:		
Bayliss	1	17
Spencer	2	520
Shaffer:		
Clark	4	1,478
Sinclair:		
Foreman	1	15
Hollins	3	642
Sango	1	
Skelly:		
Spencer	2	2,003
Texas:		
Anderson	6	1,250
Brown	8	1,480
Rodgers	3	6,270
Wilmont	6	1,480
Tidal:		
Watkins	6	2,170
Twin State:		
Barker	4	135
Hearn	3	10,695
Total Earlsboro	285	150,436

Seminole

Carter:		
B. Carter	2	225
J. Carter	3	43
F. Carter	3	110
Creamer	2	32
R. Cudjo	4	390
W. Cudjo	2	25
Gilliland	2	280
Grisso, M.	1	
Grisso, W.	5	1,150
Jackson	1	25
Knapp	3	200
Killing, M.	12	7,840
Killing, G.	4	805
Lukes	7	1,615
Ponder	2	53
Simpson	3	65
Strother	4	535
Vierson	3	430
Amerada:		
Fixico	4	1,163
Killing	4	638
Rentie	3	730
Atlantic:		
Cudjo, N.	3	565
Barnsdall:		
Carter	8	1,146
Henry	2	541
Jones	4	950
Empire:		
Gross	3	232
Wilson	2	176
Gypsy:		
Butler	4	377
Carter	8	680
Cudjo	5	482
Fixico	7	135
Harjo	3	530
Wolf	6	177

HOLLOW BALLS

For many pumping problems ball valves are ideal.
But they must be balanced.
This is ordinarily done by making them solid.

Up to about 4″ diameter, solid balls are satisfactory. Above 4″ they are too heavy. They pound the seats.

So balls over 4″ must be made hollow.

The problem of balancing large hollow steel balls was unsolved until we simply *had* to solve it in order to take care of our larger hot oil pumps.

How well we have solved this problem we demonstrate by floating our hollow steel balls on a bath of mercury. The trifling inequality of wall thickness establishes the equilibrium. Then we roll the ball through one quarter turn, carefully let go and it rolls back to rest very lazily, indicating a ball entirely practical to be used as a valve.

We have dies for our Standard Sizes.
Other sizes if you have a quantity requirement.
Material—High Chromium Stainless Steel.

Let's have your inquiries.

Representatives

FRICK-REID SUPPLY COMPANY
Tulsa, Okla., or any store.

ASSOCIATED SUPPLY COMPANY
Los Angeles, San Francisco, Bakersfield, Fellows

E. L. WILSON HARDWARE CO.
Beaumont, Texas.

NATIONAL TRANSIT
Pump & Machine Co.
Oil City Pa.

DISTRICT OFFICES
NEW YORK PHILADELPHIA PITTSBURGH
CLEVELAND HOUSTON TULSA DENVER

Representatives

THE GLOBE SUPPLY & MACHINERY CO.
New Orleans, La

F. C. RICHMOND MACHINERY CO.
Salt Lake City, Utah

MORTON McI. DUKEHART & CO.
Baltimore, Md.

REEVES & SKINNER MACHINERY CO.
St. Louis, Mo.

Independent:		
P. Fixico	3	365
Harjo	3	620
Independent & Garland:		
T. Fixico	8	944
Independent & Inter-Ocean:		
Jones	4	308
Indian Territory:		
Allen	2	242
Bowlegs	12	2,598
Fleet	1	11
Gooden	4	175
Harjo	4	236
James	4	18
Reed	3	9
Kingwood:		
Johnson	3	1,220
Magnolia:		
Horn	1	46
Franks	4	778
Mid-Continent:		
Rentie	9	1,686
Tayeche	7	360
Mid-Kansas:		
Wilkins	1	234
Phillips:		
Strothers	2	125
Philmack:		
Butler	3	1,035
Prairie:		
Gross	5	115
Mason	1	95
Spencer	1	15
Strother	8	1,085
Pure:		
Strother, A.	17	2,718
Strother, B	5	1,739
Strother, C	1	60
Roxana:		
Harber	2	295
Lashley	2	45
Sinclair:		
Carter	2	30
Cudjo, A.	6	665
Cudjo, B.	4	1,040
Dicey	2	1,465
Fixico	4	505
Slick:		
Cudjo	3	577
Franks	8	1,328
Gilbert, Sam	3	2,548
Tiger	1	46
Superior:		
Cudjo	4	834
Texas:		
Mayhue	1	315
Strothers	2	40
Tidal:		
Carter	4	370
Fixico	6	533
Harjo, D.	3	818
Harjo, T.	6	240
Mahardy	2	35
Turman:		
Cudjo	4	824
Grisso	1	126
Jones	4	1,170
Total	319	52,539
Searight		
Carter:		
Davis	7	2,120
Frazier	6	4,475
Johnson	1	140
Kiker	1	30
Mandler	2	45
Scott	1	30
Amerada:		
Johnson	1	85
Strother	2	1,995
Gypsy:		
Cudjo	4	460
Mid-Continent:		
Grayson	6	305
Soloche	3	1,345
Pine:		
Lulla	1	----
Prairie:		
Cannon	1	10
Carter	1	25
Houck	1	5
Kincaid	6	85
Wiemer	1	15
Superior:		
Varnum	1	100
Pure:		
Aldridge	6	4,388
Roxana:		
Strother	3	1,146
Sinclair:		
Polly	4	2,550
Texas:		
Fleet	1	----
Twin State:		
Varnum	2	730
Wilcox:		
Chupco	8	2,997
Total Searight	69	23,041
Total Little River	81	38,894
Total Bowlegs	287	113,694
Total Earlsboro	285	150,436
Total Seminole	319	52,539
Total Searight	69	23,041
Grand total	1,041	378,604

Canadian County

Ramsey Brothers' No. 1 Newson, SE cor. SW NE, Section 9-11-7w, is fishing at 2,860 feet.

Cimarron County

Ramsey Petroleum Co. made location for No. 1 State land, C SW SW, Section 21-5-5.

Creek County

Wood & Wood made location for No. 1 S. McIntosh, SW cor. SE SW, Section 34-19-8. Devonian Oil Co.'s No. 6 Miller, C SE NE, Section 14-19-8, is rigging up to deepen. The Prairie Oil & Gas Co. made location for No. 16 Washington, NW cor. NW SE NE, Section 7-17-7, in the Drumright Field. Bu-Vi-Bar Petroleum Corp. made location for No. 1-A B. Cain, NE cor. Section 18-17-7. H. C. Wilson made location for No. 1 James, SW cor. SE, Section 3-15-8. Roland Oil Co. has erected the rig for No. 1 L. Scott, NW cor. SW SE, Section 10-15-8. W. S. Turman has the rig on the ground for No. 4 Pemberton, C NW NW, Section 8-17-10. S. J. Smith and others' rig is at the location for No. 3 Fife, SW cor. NW SW, Section 3-17-11. H. C. Wilson's No. 1 Secrest, SW cor. SE, Section 36-16-10, is spudding. Future Development Co.'s No. 2 Newton, SW cor. NW SW NE, Section 2-16-11, is spudding. Mid-Continent Petroleum Corp. has built the rig for No. 2 Harjo, NW cor. NE NE, Section 18-14-10.

Skelly Oil Co.'s No. 1 L. Bruner, SW cor. SE SW, Section 10-15-8, was completed for 7,000,000 feet of gas in sand at 3,176-82 feet. Independent Oil & Gas Co.'s No. 7 Wolfe, SE cor. NW NE, Section 18-14-10, is shut in for 250,000 feet of gas in sand at 493-95 feet. Madden & Madden's No. 1 Barnett, SW cor. NW SE, Section 31-18-10, is dry and abandoned at 3,060 feet in the Wilcox sand found at 3,055 feet. A. E. Purser and others' No. 1 Aubrey, NE cor. SE NW SE, Section 23-18-11, Sapulpa Pool, topped the Dutcher sand at 1,920 feet and was abandoned at 1,950 feet. Kennedy & Horner and others' No. 2 Strip, SE cor. SW SW, Section 24-18-11, made 25 bbls. after a shot of 30 quarts in the Taneha sand at 1,798-1,832 feet. No. 3 Tiger, CSL NW NW, Section 25-18-11, is making 25 bbls. from the Dutcher sand at 1,930-47 feet. O. M. Irelan's No. 1 Thomas, SW cor. SE NW, Section 13-17-10, is dry and abandoned at 2,540 feet. Jackson & Wise's No. 2 Thomas, SE cor. SW NW, Section 13-17-10, is a dry hole at 2,550 feet. The Texas Company's No. 2 Sneed, C SW SE, Section 7-14-9, has been completed for 3,000,000 feet of gas in the Bruner sand at 981-93 feet. Independent Oil & Gas Co.'s No. 3 Wolfe, SE cor. NW NE, Section 18-14-10, made 225 bbls. when shot with five quarts in the Wilcox sand at 3,430-41 feet.

Grant County

Joe Lathrop and others' No. 1 Henn, SE cor. NE, Section 35-28-3w, is good for 7,500,000 feet of gas from sand at 4,060-4,100 feet. Marland and Waggoner's No. 1 Frantz, NE cor. SE, Section 35-28-3w, had the chat at 4,060-4,108 feet and gauged 8,500,000 feet of gas.

Kay County

Harris & Haun made location for No. 2 La Mar, NE cor. NW SW, Section 22-29-1w, to drill for gas. Marland Oil Co. is building the rig for No. 3 White, C SW NW, Section 17-29-1, for a gas test. Tidal Oil Co. has moved the rig material out for No. 1 Cole, C NE SE, Section 18-29-1. Location was made for No. 2 Cole, C SE NE, Section 18-29-1. Ivan Ostot and others made location for No. 2 School Land No. 76, NW cor. SE SW, Section 36-28-1w, for a gas test. Fred Morgan is rigging up a machine for No. 1 Curry, SE cor. NE SE SW, Section 19-28-1. J. H. Markham made location for No. 1 McGaha, SE cor. NE, Section 34-26-2w.

Marland Oil Co.'s No. 1-A Dickason, NE cor. SE, Section 17-29-1, had sand at 750-67 feet and was completed for 1,243,200 feet of gas. Ivan Ostot and others' No. 1 School Land No. 76, NW cor. NE SW, Section 36-28-1w, came in for 3,000,000 feet of gas in sand at 650-75 feet. Harris & Haun's No. 5 Frost, CEL W half NW, Section 22-29-1w, had sand at 1,668-88 feet and is making 6,000,000 feet of gas.

Logan County

Ramsey Brothers' No. 1 Lovell, SW cor. SE NE, Section 16-18-4w, is now drilling deeper at 4,070 feet and swabs 50 bbls.

Osage County

Beacon Oil Co.'s No. 1, SW cor. NE, Section 3-28-8, is drilling at 100 feet. Phillips Petroleum Co. is building the rig for No. 1, SW cor. NE, Section 11-26-6, Burbank Pool. George Parker has the cellar dug for No. 5, SE cor. NW, Section 11-26-6. McCuen, Wormser and others' No. 1, SW cor. NW, Section 15-24-8, is rigging up to deepen from 538 feet. A. G. Oliphant's No. 1, NE cor. NW NW, Section 7-24-9, is drilling at 315 feet. Winona Oil Co. made location for No. 1, CSL NE, Section 19-22-12.

Osage Gas Producing Co.'s No. 130, NW cor. SW NW SE, Section 35-28-11, is dry and abandoned at 1,963 feet. Phillips Petroleum Co.'s No. 2, SE cor. Section 17-27-6, Burbank Pool, topped the lime at 3,027 feet, drilled to 3,032 feet and has been abandoned. No. 5, NE cor. SE SE, Section 17-27-6, has been abandoned at 1,472 feet. Osage Gas Producing Co.'s No. 382, SW cor. SE NE, Section 6-27-11, has been completed for 1,500,000 feet of gas in lime at 1,845-75 feet.

Indian Territory Illuminating Oil Co.'s No. 376, NW cor. SE NE, Section 21-27-11, was shot with five quarts in sand at 1,930-35 feet and then abandoned. Peters Petroleum Co.'s No. 3, CNL SE, Section 22-27-11, topped the lime at 1,875 feet, drilled to 1,920 feet and completed for 1,250,000 feet of gas. George Parker's No. 4, SW cor. NW NW, Section 11-26-6, made 811 bbls. after shooting 70 quarts in the Burbank sand found at 2,815 feet and drilled through at 2,855 feet, total depth 2,873 feet. Indian Territory Illuminating Oil Co.'s No. 385, NE cor. NW, Section 29-23-8, found the Cleveland sand at 1,338-55 feet and is making 5,000,000 feet of gas. Pueblo Petroleum Co.'s No. 4, CWL SW SE, Section 14-21-8, drilled to 2,305 feet and was plugged back to 2,276 feet and completed for 25 bbls. A. D. McDonald's No. 1, SW cor. SE, Section 6-21-9, made 12 bbls. after shooting the Layton sand at 1,220-65 feet with 80 quarts.

Pawnee County

Wallace and others' No. 1 Green, NW cor. SW, Section 29-20-9, is spudding. J. H. Turner and Pax Oil Co. moved a machine out for No. 2 Weeks, NE cor. SE, Section 30-20-9. Dixie Oil Co.'s No. 1 Barber, NW cor. SW SE, Section 8-21-6, is dry and abandoned at 3,212 feet. Privett Drilling Co.'s No. 2 Garner, SW cor. NE SE, Section 3-20-6, has been completed for 10,000,000 feet of gas in sand at 3,030-60 feet.

Payne County

Payne County Gas Co. has the rig built for No. 2 Knott, NW cor. SE SE, Section 7-18-4. Pure Oil Co. has the rig on the ground for No. 2 Ramsey, SW cor. NE SE, Section 7-18-4. Location has been made for No. 1 Varley, NE cor. SW SE, Section 7-18-4. Willis Oil & Gas Co. has the rig up for No. 1-A Smith, NW cor. SE, Section 10-18-5.

Tulsa County

D. W. Franchot's No. 8 Bruner, NE cor. SW NE SW, Section 22-17-13, made 5 bbls. after shooting the Dutcher sand at 1,664-74 feet.

Beckham County

Magnolia Petroleum Co. made location for No. 1 Baggett, NE cor. NW NW, Section 29-9-23w.

Garvin County

Magnolia Petroleum Co. has the rig up for No. 1-A King, SE cor. NE SW, Section 31-1-3w, a twin to No. 1, which lost the hole. No. 1 King, SE cor. NE SW, Section 31-1-3w, had sand at 3,262-68 feet but lost the hole at this depth and was abandoned.

Carter County

Magnolia Petroleum Co. has erected the rig for No. 2 H. Carter, SW cor. SE SW, Section 14-1s-3w. The rig is under construction for No. 3 Spears, SW cor. NW, Section 29-1s-3w. E. M. Boring and others' rig is being built for No. 1 Walker, SW cor. SE NW, Section 10-4s-2w.

Magnolia Petroleum Co.'s No. 2 McCrory, SE cor. SW NE, Section 19-1s-3w, has been abandoned at 2,800 feet on account of a bad hole. Humble Oil & Refining Co.'s No. 2 Spears, NW cor. SE NW, Section 29-1s-3w, has been completed for 120 bbls. at a total depth of 3,175 feet, producing from sands at 2,810 feet to 3,155 feet. Magnolia Petroleum Co.'s No. 1 Akers, NE cor. SE NE, Section 30-1s-3w, lost the hole at 3,820 feet and has been abandoned. Schermerhorn Oil Co. and others' No. 4 Calvery, SE cor. SW, Section 2-2s-3w, is dry and abandoned at 4,198 feet.

Grady County

Oklahoma Gas Utilities Co.'s No. 3 Farwell, SE cor. SW SE, Section 23-5-

(Continued on Page 131)

NEW WELL STIMULATES INTEREST IN SOUTHWEST TREND AT OXFORD

By J. L. Dwyer
Staff Correspondent, Kansas Fields

The Oxford townsite in Kansas has continued to hold the spotlight, and the completion last week of the Roxana Petroleum Corp.'s No. 1 Rothwell, in Section 14-32-2, has given the southwest trend from the townsite added interest. This well has maintained its output unusually well, and has the largest natural flow of any well in this area, where the shots and swab have made good Stalnaker sand production.

An interesting incident in this area is the offer of the Roxana Petroleum Corp. to allow the city of Oxford to share in the water system which that concern has completed. The city is to be permitted the use of the water at a very low rate, and in case of fire or other emergency, the water is free.

There are several wildcat wells in northwestern Kansas which are now approaching the interesting depth, and which should be completed within the next two weeks.

Butler County

Appleman and others' No. 1 Watson, NW cor. SW NW, Section 36-24-4, is dry and abandoned at 863 feet. Bronson and others' No. 3 Doughty, CSL NE SW, Section 5-27-6, has been completed for 100 bbls. in sand 2,725-60 feet.

Chase County

Empire Oil & Refining Co.'s No. 1 Crosby, SE cor. NW, Section 24-22-9, had sand 2,470-77 feet, drilled to 2,697 feet and was abandoned.

Cowley County

Trees Oil Co. and others' moved the rig timbers to the location for No. 2 Dickinson, SE cor. SW NE, Section 30-30-4. Trees Oil Co. has the rig on the ground for No. 1 Hettle, SW cor. SE NE, Section 21-31-4. Location has been made for No. 1 Estus, SE cor. NW, Section 12-32-6. Barnsdall Oil Co. is building the rig for No. 1 Roberts, NE cor. SE NE, Section 7-33-3. Lewis & Hollis moved a machine out for No. 1 Newman, SE cor. SE, Section 35-34-3. Brady and others made location for No. 1 Koestler, SE cor. NW NW, Section 35-34-3.

Vickers & Philmack Oil Co.'s No. 1 Graham, SE cor. NW NW, Section 22-32-4, has been abandoned at 3,017 feet.

Dickinson County

Frank and others' No. 1 Kutler, SW cor. SE, Section 15-16-4, is a dry hole at 2,658 feet.

Ellis County

Midwest Refining Co.'s No. 19 Reidell, NW cor. SW SE, Section 27-13-16w, is dry and abandoned at 3,870 feet.

Greenwood County

White Eagle Oil & Refining Co. has the rig up for No. 1 Welch, SE cor., Section 33-24-10. Christy and others' No. 1 Christy, SW cor. NW, Section 31-24-13, is rigging up. Parkins and others staked the location for No. 1 Cox, NE cor. SW SE, Section 15-25-11. Empire Oil & Refining Co.'s No. 1 Kolb, NW cor. NE, Section 15-25-13, is rigging. Devine and others' No. 1 Bradford, SW cor. NE, Section 22-26-11, is spudding.

Skelly Oil Co.'s No. 1 Prather "C", SW cor. NE NW, Section 21-22-10, is dry and abandoned at 2,305 feet. Federal Oil Co.'s No. 3 Storrer, Lot 39 North, Lamont townsite, Section 30-22-13, has been abandoned at 990 feet. Polhamus and others' No. 3 Holverson, SE cor. NW, Section 26-24-9, is dry and abandoned at 2,684 feet. Christy and others' No. 1 Hoover, CSL SE NE, Section 36-24-12, was shot with 100 quarts and is producing 200 bbls. from sand 1,625-50 feet. Higgins and others' No.

(Continued on Page 131)

ANNOUNCEMENT

by

AMERICAN-LAFRANCE FIRE ENGINE COMPANY, INC.

and

Foamite-Childs Corporation

EFFECTIVE November 15, 1927, the American-LaFrance Fire Engine Company, Inc., of Elmira, N. Y., have acquired the assets and good will of the Foamite-Childs Corporation of Utica, N. Y., and the business of the two companies will be combined under a single corporate identity. The name of the company will be the American-LaFrance & Foamite Corporation.

For 82 years American-La France has been recognized as the leader in the development and production of modern fire-fighting equipment. More than 90% of the fire departments of this country are using American-LaFrance motor apparatus, extinguishers, and accessories. Also in industry, American-LaFrance represents the standard in scientific, dependable fire apparatus.

With long, successful experience in the manufacture of motor fire trucks, the American-LaFrance Company has also produced a complete line of heavy-duty commercial motor trucks which have gained recognition in every industry.

Foamite-Childs Corporation has been successful in the manufacture and distribution of certain types of fire protection equipment. They have developed the modern foam method of fire control (Foamite Protection) now widely used for safeguarding industrial, municipal, marine and private property.

THE combining of these two successful organizations brings under centralized direction and operation a body of engineering experts whose specialized experience makes possible a breadth and completeness of service never before approached.

The combination, AMERICAN-LAFRANCE & FOAMITE CORPORATION, will maintain sales offices and engineering representatives in all the principal cities of the United States and Canada. Affiliated companies will operate in foreign countries.

Palmer Corp.-Gulf Gas Deal Important

Will Have Big Bearing on Future Activities. Price Reported to Have Been $2,000,000 With Overriding Royalty

By D. H. Bancroft
Staff Correspondent, North Louisiana-Arkansas

SHREVEPORT, La., Dec. 12.—Details of the Palmer Corp.'s purchase of the gas rights on the Gulf Refining Co.'s Richland Parish acreage remained the leading subject of conjecture here this week. It is generally accepted that the price was $1,500,000 to $2,000,000 with an overriding royalty. Some time ago another gas company sent an agent to Houston headquarters of the Gulf company with a propo ition to buy the gas rights on the company's 20,000 acres of proven and semiproven stuff for $1,000,000 and a 1-cent overriding royalty and he was told that it would require $2,000,000 and 2 cents royalty. It was learned Friday on pretty good authority that $2,000,000 was the price. But nevertheless, no one here knows for a fact what the price was. Whatever it may have been, the transaction was the largest in which north Louisiana and Arkansas oil and gas properties were involved that has been closed since the Smitherman Syndicate sold out their Haynesville properties to the Ohio and Gilliland Oil Companies in 1921. Also, it is particularly interesting in view of the Palmer Corp.'s reported connection with a St. Louis gas pipe line project and is regarded in some quarters as a preliminary, or detail, of such project.

On its approximately 20,000 acres Gulf Refining Co. has completed four wells having an initial open flow capacity of 123,000,000 feet per day, has one well drilling and another shut down waiting orders after testing dry at 2,453 feet. This is its No. 1 Wayne Land & Timber Co. in Section 23-15-5e, on the west side of proven territory. A third test, No. 3 Rhymes, is a location in Section 28-17-6.

Richland Parish is also receiving attention on account of pending test of Moody-Seagraves' No. 1 McClanahan in Section 36-16-5e, in the southern portion of what is regarded as proven territory. These operators' No. 2 McCoy, completed with 70,000,000 feet of gas at 1,150 pounds rock pressure in 9 feet of sand from 2,396-2,406 feet, as Louisiana's largest gas well, is in Section 30-16-6, and their No. 1 McClanahan is in Section 36-16-5, adjoining on the west. Last report on it was that it was bailing 6-inch casing, cemen ing at 2,296 feet, and its completion is awaited with a great deal of interest in whether it will rank with the McCoy producer.

Champagnolle Disappointment

News from the new Champagnolle Field in Union County, Arkansas, was not so good this week. Rovenger Oil Corp., deepening No. 1 McCain, the discovery well in Section 4-17-14, from 2,834 feet to the lower sand, uncovered by the Ohio Oil Co. with No. 1 Crain in Section 1-17-14, abandoned the hole at 3,098 feet after salt water tests in sands at 3,052-56 feet and 3,094-98 feet.

Garrett-Modisett Drilling Co.'s No. 1 Gregory in Section 10-17-14, about 2 miles south of production, pumped 350 bbls. of fluid through 3-inch tubing from 4 feet of sand at 2,761-65 feet, the fluid testing 250 bbls. of 21 gravity oil at the beginning, and was last reported as shut down. Eddy Jones' No. 1 Crain in Section 2-17-14, is still flowing 3,000 bbls. of fluid through two 1-inch chokes but the amount of oil has decreased until the fluid is now 75 to 80 per cent water. Ohio Oil Co. is building a separator and flow lines before bringing in No. 3 Crain in the NE cor. NW SE, Section 1-17-14, which has 8 feet of sand at 2,988-96 feet. No. 1 W. Pumphrey in the SW cor. SW NE, Section 1-17-14, was dry in 6 feet of sand at 2,994-3,000 feet and cored blue shale at 3,004 feet.

Ohio Oil Co. now has more operations under way in Champagnolle than any other operator there, having six tests drilling, one a derrick and four rigged up. Eddie Jones has one test drilling, one rigged up and location for a third. He is treating 1,200 to 1,400 bbls. of 27 gravity oil from his No. 1 Crain.

State and county authorities and operators interested in the new pool got together in El Dorado and agreed on plans for immediate improvement of the road leading to the field from El Dorado and such new construction as may be necessary to facilitate transportation of equipment and supplies. The inevitable mushroom settlement common to new oil pools everywhere has sprung up in the field and has been christened Rainbow City.

Fourteen Completions

Fourteen completions in proven areas were listed during the week, four of them failures, one of the latter being the Rovenger well referred to. Standard Oil Co. struck a water sand in No. 190 Stiles, Section 27-21-16, Vivian district of Caddo Parish, and abandoned the hole at 1,948 feet. The Texas Company abandoned No. 1 Siveley, Section 22-20-6e, Morehouse Parish, at 3,880 feet, leaving several joints of 3-inch drill stem in the hole. It had tested salt water at 2,475 feet and again at 3,005 feet and passed through the red beds at 3,500-3,660 feet. H. E. Oliver and others gave up trying to salvage No. 1 Hatch in Section 2-15-5, Richland Parish, which staged a blowout in January estimated at 5,000,000 feet of gas and 10,000 bbls. of salt water, at 2,309-12 feet with only 728 feet of 8-inch casing in the hole and has been wild ever since. Magnolia Petroleum Co. abandoned location for No. 3 Crawford, Section 8-16-16, Union County, Arkansas, on which derrick had blown down.

Other District Completions

J. S. McCullough completed an Elm Grove producer in No. 4 Hodges, Section 25-16-12, making 40 bbls. on the pump, total depth 1,568 feet. Pine Island district of Caddo Parish had one completion, a 10-bbl. pumper in the 1,600-foot pay, in Double H Oil Co.'s No. 1 Wadkins, Section 27-21-15. In the Greenwood gas field, Ferguson and others completed No. 1 Abney, Section 7-17-16, with 4,000,000 feet of gas from 8 feet of sand at 960-68 feet. Zoder and others completed No. 6 Urania, Section 7-10-2e, LaSalle Parish, pumping 50 bbls. oil, total depth 1,516 feet. In the Ouachita Parish division of the Monroe district, Jordan Drilling Co. completed No. 1 Miller, Section 18-18-5e, making 5,000,000 feet of gas, total depth 2,242 feet. Richland Parish's completions were the Moody-Seagraves' No. 2 McCoy and Oliver and others' No. 1 Hatch.

Arkansas Fuel Oil Co. added one more to its Pleasant Hill producers with completion of No. 11 Logan in Section 33-10-12, flowing 175 bbls. of oil from 3,314 feet, a little deeper than usual for producers in this territory. Magnolia Petroleum Co. completed No. 1 Haynesville Mercantile Co., a Sarepta (Webster Parish) gas field producer in 8 feet of sand at 2,606-14 feet, making 35,855,890 feet of gas at 380 pouids rock pressure, an average well in that area at this time.

The Stephens district of Ouachita County, Arkansas, long absent from completions records, listed Brewer and others' No. 1 H. L. Curry, Section 32-15-19, pumping 25 bbls. salt water and 2 bbls. oil from 13 feet of sand at 2,188-2,201 feet.

Daily average runs from the field in the two states, totaling 143,740 bbls., were 940 bbls. under last week's average.

The Texas Pipe Line Co. has shut down three of its main line pumping stations because, it is reported, of the decline in production from pools in this territory handled and served by it. During November the line transported a total of 418,000 bbls. The stations shut down are those at St. Augustine, Bunker Hill and Jasper, leaving the Logansport plant to push the traffic 147 miles into Port Arthur receiving terminals.

Louisiana Oil Refining Corp., which led in the recent reduction of posted prices on Smackover light and heavy oils, this week closed a contract with the Magna Petroleum Co. for 50,000 bbls. of Smackover heavy oil at 10 cents per barrel over the market, or 95 cents per barrel.

Daily average runs from the field for the past week were as follows:

Louisiana	
Caddo light	12,055
Caddo heavy	4,080
Homer	4,615
Haynesville	6,815
Cotton Valley	5,000
DeSoto-Red River	4,100
Elm Grove	680
Bellevue	1,050
Urania	8,490
Pleasant Hill	735
Total	47,620
Arkansas	
El Dorado	6,075
Smackover light	9,300
Smackover heavy	75,345
Stephens	1,165
Nevada County	3,450
Lisbon	2,660
Bradley	125
Total	96,120
Total both states	143,740

DE SOTO PARISH, LA., WILDCAT HAS PROMISING SHOWING OF OIL AND GAS

By D. H. Bancroft

SHREVEPORT, La., Dec. 12.—With casing cemented for a test of 16 feet of pay, said to be the same as the second Monroe gas rock, the Palmer Corp.'s prospective gas well, No. 1 White, in Section 2-9-10, West Carroll Parish, has given way for the moment to Benson Oil Co.'s No. 1 Wolff in Section 3-10-13, DeSoto Parish. As the week ends this wildcat is reported to have made a show of oil and gas at 3,003 feet, amounting almost to a blowout. Reports reaching Shreveport are that it has penetrated 16 feet of sand and that plenty of oil is showing in the pit with arrangements under way for setting liner to test.

Chances for getting a gasser or a small producer here are believed to be better than the average wildcat, those taking this view basing their opinion on the experience of the Huntley Syndicate with No. 1 Parsons in the same section with the Benson Oil Co.'s well. The Huntley Syndicate drilled in 1920, completing the test as an 8,000,000-foot gas well at around 3,000 feet during the last week of April. Soon after it came in, it caught fire while running wild and burned for a week before it bridged. During the last two or three days of the fire it began making oil, indicated by the greasy, black smoke, but how much was never determined as it was found in such condition after killing itself that it was not worth salvaging. Development in other proved districts attracted the operators elsewhere and the showing was not followed up, though two or three tests were made in that locality without results. Location is about 9 miles northwest of production in the Pleasant Hill Field of Sabine Parish.

Test of the Palmer Corp.'s West Carroll wildcat is expected some time during the coming week, or as soon as some title work is completed. The well is located in the southeastern part of the company's 40,000 acres of leases.

Results to be obtained in this well and the others that will no doubt be drilled should the showing fail to be backed up by commercial production are of particular interest in view of the Palmer Corp.'s recent purchase of gas rights on the Gulf Refining Co.'s Richland Parish leases and the corporation's reported connection with a St. Louis pipe line project.

Bossier Parish's latest wildcat, Sales & Walker's No. 3 Bollinger in Section 30-23-11, completed two weeks ago pumping 500 bbls. of fluid, 90 per cent water, from 8 feet of sand at 3,083-91 feet improved after being pumped, several days' agitation causing an increase in the percentage of oil in the fluid and the last reports obtained were that it was making between 60 and 75 bbls. of oil.

Testing Small "High"

Rogers & Jensen, drilling No. 1 Smith in Section 22-20-15, Caddo Parish, apparently on one of the numerous small "highs" scattered through that part of the parish, and have cemented 6-inch casing at 2,100 feet for a test. Location is in the midst of one of the numerous vacant areas of small dimensions found in and between producing districts of Caddo. Completions on some of these knobs have been the making of more than one Caddo operator, at least have given them a new and better start and are valuable chiefly because, while small, are exceptionally long-lived, steady producers.

Lawson & Pharis, who have been drilling several formation tests in southern Natchitoches Parish are reported to have defined a "high" in the vicinity of Gorum in Township 6, Range 5, and are mak-

(Continued on Page 124)

NORTH LOUISIANA

Bossier Parish

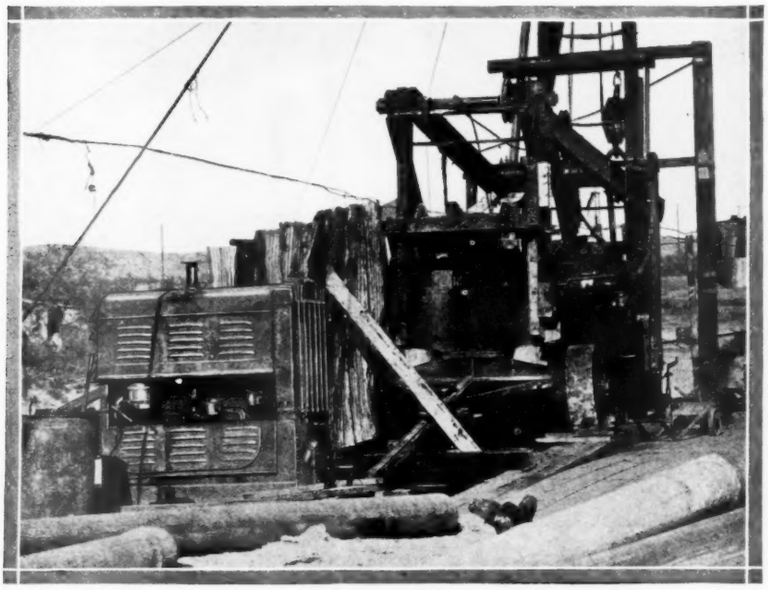
Cartersville — Arkansas Natural Gas Co., which began drilling No. 1 Barnett, its first well in this area, in Section 17-23-12, on November 29, has set 309 feet of 12-inch surface casing and is drilling at 400 feet. Belchic & Laskey have drilled No. 1 Dodson, Section 22-23-12, to 2,975 feet and are arranging to cement 6-inch casing. Magnolia Petroleum Co. is arranging to set 8¼-inch casing at 3,057 feet in No. 1 D. W. Roberson, Section 26-23-12. O'Brien Brothers have rig up to drill No. 1 Farrington in Section 21-23-12. Woodley & Collins swabbed No. 3 L. & A., Section 15-23-12, at 3,080-87 feet, lost the swab and have a fishing job.

Bellevue—Humble Oil & Refining Co. twisted off drill stem in No. 30 Bliss & Wetherbee, Section 15-19-11, and has a difficult fishing job, total depth 4,612 feet.

Elm Grove and Sligo—The Palmer Corp. began drilling No. 1 Burke, Section 26-17-12, and has set 12½-inch surface casing at 232 feet. Location is an offset to Sligo Syndicate's 4,272-foot well in Section 23-17-12. No. 1 Jeter, which made 20 bbls. of oil and 2,000,000 feet of gas, initial. Clifton Davis has made location 1,504 feet east and 420 feet south

(Continued on Page 123)

Waukesha Driven Cable Drilling Rig in Yates Field, Texas



p-770-L

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P-794-L

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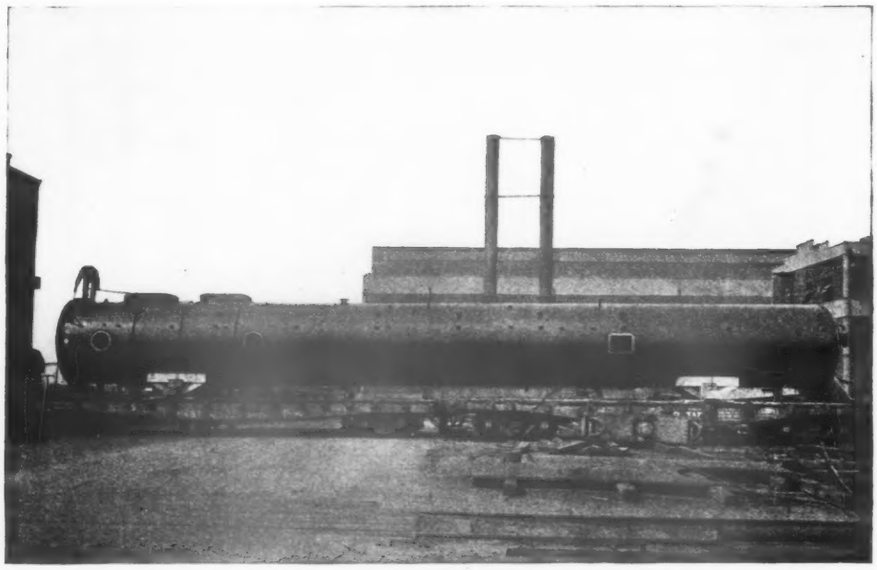

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North Edge of Adams Gas Field Defined

Dry Hole in Medina County Not Unexpected. Humble Extends Line to Randado; Surveying to Redondo

By B. D. Stevenson
Staff Correspondent, Southwest Texas

SAN ANTONIO, Tex., Dec. 12.—Deer hunting and wild turkey hunting are so good in Southwest Texas at this time that they have vastly interfered with, or benefited, the oil industry, depending on how one looks at a condition of inactivity at this time as affecting the industry. There has been very little of interest in the proven fields of Southwest Texas during the past week that is of any significance, and not a great deal in the wildcat area. In the Adams gas field, Southern Gas Utilities got a dry hole in No. 3 Schmidt in Medina County, but it was off to the north edge and production was not expected to go much beyond that, at least. It marks the north edge at that part of the field.

Of interest in the Laredo district is the air test on five of the shallow wells in the old Charco Redondo Pool in the southern part of Zapata County where production of 5 bbls. per day from wells 150 to 180 feet deep has been going on in a few wells for as long as 15 years. A year or so ago on the strength of a contract with the Humble Oil & Refining Co. to take the oil, development started and there are about 100 wells in the field at this time and Humble has put the oil in a 55,000-bbl. tank which is now over half full. Air was introduced into five wells and they came up to 25 bbls. daily each. Now the entire field will be put on air by drilling holes propertly placed into which the air will be introduced.

The Humble recently extended its pipe line from the Randado Pool in northwestern Jim Hogg County, 5 miles south to the Allworth Pool where there are a few wells and a total production of about 100 bbls. a day or more and is surveying 10 miles farther to the Charco Redondo Pool where shallow oil was found at 180 feet in deeper tests, will start after January 1 to try to develop his shallow oil into a pool.

Offices Transferred

Humble Pipe Line Co., which has maintained an office in Laredo since the completion of its pipe line from the Mirando Field to Ingleside about a year ago, has closed that office and the business there will be handled by the land department of the Humble Oil & Refining Co. at Laredo, and will be looked after by G. D. Beauchamp, G. H. C. Johnson, chief clerk to Superintendent Howard of the Humble Pipe Line Co., has been transferred to the San Antonio office of the company.

The number of notices of intention to drill for oil or gas in Texas filed with the oil and gas division of the Texas Railroad Commission during November was 715, and November is the third month that has shown a slight increase since the low mark of 561 was reached in August, setting the record for the past two years. The peak of activity was in July, 1926, when about 1,350 such notices were filed. Brown County which has been leading the state for months, dropped to fifth place with Pecos in the lead with 63, Archer and Shackelford with 48 each, Wichita with 45 and Brown with 35. Brown still leads the state with number of producers completed having 49 in November while the nearest competitors were Archer and Wichita with 20 each. Total producers completed in the state and reported to the oil and gas division was 308, compared with 315 in October and 290 in September and the September record was the lowest in over two years. The record of filings with the oil and gas division will not check with other records turned in by scouts of big companies for the reason that companies are sometimes slow in getting their reports to the oil and gas division and the scouts are prompt in getting theirs to their executives. The record of filings at Austin taken as a whole indicates that the industry has halted its retrogression and may be about to start climbing the hill.

COMPLETIONS

Jim Hogg County

Johnson and others' (American Well & Prospect Co.) No. 21 Palacious, Randado Field, Survey 291, Block 14, at 1,268 feet is a 15-bbl. well.

Medina County

Pioneer Oil & Refining Co.'s No. 1 Adams, Survey 13, Block 1, Adams gas field, at 893 feet topped sand, total depth 923 feet, gauged 4,000,000 feet of gas.

Brooks County

The Texas Company's No. 3 Lasater, Survey 329, Gyp Hill, has been abandoned at 4,878 feet, dry.

Kinney County

Havelin Oil Co.'s No. 1 Weatherby, Section 26, Block 5, at 4,374 feet has been abandoned as dry.

Live Oak County

Encino Oil Co.'s No. 1 Stewart, Ezzo McWhorter Survey, has been abandoned at 2,212 feet as dry.

San Patricio County

Mission Drilling Co.'s No. 1 Harwood in the White Point gas field, has been abandoned as dry at 3,000 feet.

Zapata County

O. W. Killam's No. 1 Lopez, Survey 75, Block 16, Mirando Valley Pool, has been abandoned as dry at 2,140 feet.

New Locations

Johnson and others' No. 22 Palacious, Survey 291, Block 14, Jim Hogg County, in the Randado Field, is moving on.

Humble Oil & Refining Co.'s No. 7 Koehler, Survey 165, Humble-Reiter-Foster Field in Duval County, is moving on.

Charley Hirtz' No. 1 Will Parr, Caldwell County, is location 2,700 feet to Austin Road and 200 feet to north line of farm, 3 miles north of Lockhart.

John S. Storey's No. 1 Mrs. M. E. Thomson, John Lawrence Survey, Caldwell County, is location 150 feet to north line and approximately 600 feet to east line.

Devil's River Oil & Gas Co.'s No. 1 Terney, Edwards County, C. C. S. D. & R. G. N. G. Survey, Block 167, 2,640 feet to north line and 660 feet to west line, is drilling at 45 feet.

Southern Gas Utilities' No. 5 Adams, Adams gas field, Medina County, is location 1,400 feet north of No. 4.

Witherspoon Oil Co.'s No. 1 Tidal lease is location in the western part of the Adams gas field, Medina County.

Southern Gas Utilities-Witherspoon Oil Co.'s No. 3 Redus, Survey 92, Adams gas field, Medina County, has set surface casing at 61 feet; No. 4 Adams at 880 feet in the Adams gas field, Medina County, has set casing and is ready to drill in.

Cole Field—Duval

Houston Oil Co.'s (Texas) No. 2 S. Benavides, corner Blocks 337, 338, 343, 344, is moving on. Houston Oil Co.'s (Humble) No. 1 Juan V. Cuellar, Share 1, located 3,300 feet to southwest and 2,324 feet to southeast lines, is moving on. Cole Petroleum Co.'s No. 50-B Benavides, Survey 5, Block 7, located 611 feet to northwest and 625 feet to northeast lines, is drilling at 60 feet.

Piedras Pintas Dome

Humble Oil & Refining Co.'s No. 7 Walsh, Survey 185, located 2,050 feet to east line and 1,750 feet to north line, is drilling at 4,066 feet with oil showing at 4,003-10 feet.

Randado Field—Jim Hogg

Magnolia Petroleum Co.'s No. 32 Merchants State Bank, Survey 415, located 850 feet to west line and 2,100 feet to north line, is drilling at 1,560 feet after testing dry at 1,238-41 feet; No. 33 Merchants State Bank, Survey 415, located 2,400 feet to west line and 690 feet to west line, is location. Johnson and others' No. 12 well is coring below 1,200 feet (location next week).

Alworth Pool

Alworth-Stevens-Hild's No. 10 M. Garza, Survey 39, Block 7, is location 300 feet to northeast lines and 110 feet to southeast lines.

Aviator or Bruni Tracts

F. J. Bates' No. 1 Bruni, Block 47, located 150 feet to south and east lines, is coring for sand at 1,400 feet.

Cole Gas Field No. 2—Webb

Cole Petroleum Co.'s No. 36 Benavides, Survey 412, Block 14, 159 feet to east line and 266 feet to north line, at 5,525 feet has caught drill stem lost in hole and is moving in pulling machine.

Mirando Valley Pool—Zapata

O. W. Killam's No. 1 Benavides, Survey 12, Block 13, located 150 feet to southeast lines and 500 feet to northeast lines, is drilling at 500 feet; No. 1 Lopez, Survey 75, Block 16, located 200 feet to south line and 700 feet to east line, at 2,036 feet is testing through drill stem.

Luling Field—Caldwell

North & South's No. 1 Kelly is drilling in schist at 7,268 feet; No. 2 Tiller is drilling in schist at 6,815 feet.

Dale Field

The Texas Company's No. 1 Moore, Jasper Gilbert Survey, 150 feet to NE and SE lines, is location; No. 1 Osteen, W. C. Swearingen Survey, 150 feet to NE and SE lines, is location; No. 2 Osteen is location in the same survey and offset to Humble's No. 1 Dinges.

Kingsville Field—Kleberg

Houston Oil Co.'s No. 3 Kissman, Section 41, Block 10, located 500 feet to north and west lines, has derrick up. Humble Oil & Refining Co.'s No. A-4 Dennett, Lot 1, Section 39, located 550

(Continued on Page 92)

WILDCAT ACTIVITY PICKING UP IN NORTHERN CALDWELL COUNTY, TEXAS

By B. D. Stevenson

SAN ANTONIO, Tex., Dec. 12.—At the close of the past week, J. B. Pundt was setting casing at 1,292 feet in No. 1 West in the northern part of Zavala County near the Uvalde County line and with a gas showing at 1,310-12 feet with a trace of oil. Sun Oil Co. to the south and National to the west, a few years ago each got a gas well of considerable size at around about the depth of this well. Both wells were abandoned because there was no market for the gas. Now there is a market in Southwest Texas for gas and the Pundt well, which looks very much like the makings of a gas well, may start the development of a new gas field. Western Gas & Fuel Co. has a well on the West ranch at 876 feet in igneous that topped the igneous at 735 feet. It is shut down. It has a chance of making a well also. These are the only wells drilling in that territory though the Pure Oil Co. has a well in southwestern Uvalde County 2 miles or so west and a little north drilling at 1,055 feet in black shale. Pundt is equipping his well with safeguards in case it comes in a gas well of considerable size.

More Activity

Wildcat activity is picking up a little in northern Caldwell County. Two new locations have been made north and northeast of Lockhart, one by Hirtz on the Parr land a couple of miles north of Lockhart and one by Storey and others 5 miles northeast of Lockhart. No one has abandoned the idea but that there is oil in that territory, or at least some structure, and quite a few wells were drilled trying to find it. The result of the campaign thus far has been the Lytton Springs and Dale Fields and there is room yet for some more fields. Two other wildcats are starting, one by Alexander-Lyles and Fred Adams on McConnell land south of Dale and one by The Texas Company on the Robuck land south of Dale.

After drilling in the White Point district in San Patricio County, entering the territory early and getting one of the first wells, Alamo Drilling & Leasing Co. is again moving into wildcat territory on the south side of the bay in Nueces County and is assemblying material to drill on the Theresa Gallagher ranch 10 miles southwest of Corpus Christi. It will be a 3,000-foot hole. William F. Morgan is starting a wildcat on the Waelder ranch northwest of Sinton in San Patricio County and there is continuing indications each week in Southwest Texas that the wildcat activity is not getting less though it is not increasing much.

Humble will make another effort on the Kohler ranch in Duval County where it contracted to drill six wells on leases in which Reiter-Foster retained a quarter interest. The six wells were drilled and two of them are almost in the class of commercial wells. They are on the Reynosa escarpment, or rather near it, and 15 miles from any production. The No. 7 is in the northwest corner of Survey 165, located 200 feet from the north and west lines and about one location south of No. 6, which was a small producer.

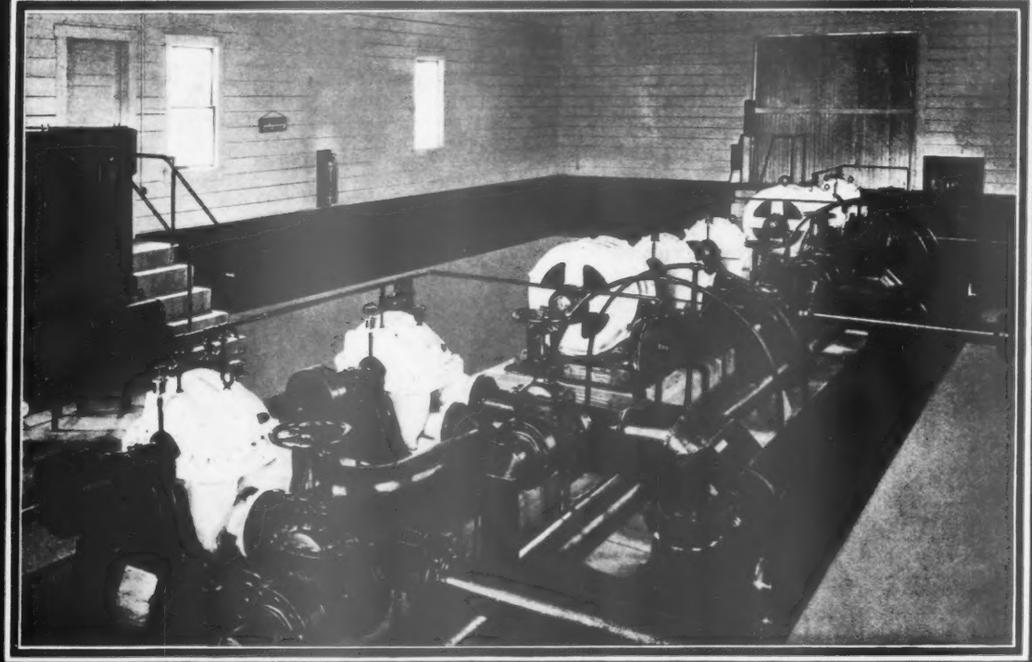
Havelin Oil Co. has abandoned its No. 1 Weatherby in the western edge of Kinney County in Section 26, Block 5, of the I. & G. N. Survey, at 4,374 feet after shooting with 120 quarts and getting no results. The well has been drilling for considerably over three years and has had a few showings along that encouraged deeper drilling.

Interesting because they are deep if nothing else are the Rycade wells in Maverick County. No. 2 Sullivan tested at 5,420 feet and got salt water and will probably drill deeper. No. 1 Chittim which reached a depth of 5,640 feet and had 28,000,000 feet of gas and 75 bbls. of oil but which had to sidetrack drill stem at 4,115 feet, is shut down waiting for water. Magnolia's No. 1 Whitehead in northeastern Val Verde went past the mile depth the past week and is at 5,320 feet and still drilling in shale.

Duval County

Driscoll and others' No. 8 Driscoll (fee) Survey 23, located 1,410 feet to south line and 563 feet to west line, is drilling at 60 feet. National Oil Co.'s

(Continued on Page 125)



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Spindletop Keeps Gulf Output Up

Good Wells During Past Two Weeks Maintain Production. Deep Drilling Expected to Stage Further Comeback

By Ne'l Williams
Staff Correspondent, Gulf Coast Fields

HOUSTON, Tex., Dec. 12.—With a gain of nearly 6,000 bbls. in the daily average production of the Spindletop Field of Jefferson County, production in the Gulf Coast territory as a whole continued to mount the past week. Despite noticeable declines in several other fields, including Barbers Hill and Pierce Junction, the daily average output of the coastal fields of Texas and Louisiana increased 2,402 bbls.

The substantial increase at Spindletop was due largely to a series of a half dozen good wells completed there in the previous two weeks whose combined initial production was 15,400 bbls. The past week, however, was rather quiet at Spindletop from a completion standpoint with only 2,620 bbls. of initial daily production being added to the field. One well came in flowing 2,480 bbls. daily while the other two completions were only two small pumpers. Considering this it is likely that a substantial decline in output will be recorded the coming week.

The string of good wells brought in at Spindletop indicated the comeback possibilities of one of the oldest fields in the coastal territory and with deeper sands being prospected and developed that field is one of the most active in the district. Five locations for new tests were made during the week, rigs are up for three others while 11 other tests or old wells being deepened are drilling. Two of the latter were being tested as the week closed.

Nearly a score of producers or old wells worked over were completed in the Texas and Louisiana coastal territory during the week but for the most part these were small routine and scattered wells. Including four wells, whose initial production was more than 1,000 bbls. each, the total initial daily production added to the district was only 8,565 bbls.

South Louisiana

South Louisiana developments were featured principally by Hercules Oil Co.'s No. 3 Paraffine at Edgerly, Calcasieu Parish, which picked up the deeper producing sand around 3,700 feet and came in flowing at the rate of 1,200 bbls. daily. This well was completed early in November flowing at the same rate from a sand at 3,570 feet, but salt water drowned out the oil and the hole was deepened to its present level.

Also of interest in the Edgerly Field is Rex Petroleum Co.'s No. 5 Hunter estate, which the past week was flowing at the rate of 150 bbls. net oil daily. This well blew in as a gasser at 3,996 feet but after blowing for a while it began to make some oil which has increased to its present production.

The Spindletop Field of Jefferson County, Texas, has just had a similar experience in Yount Lee Oil Co.'s No. 37 McFaddin, which the past week was making 800 bbls. of 29.4 gravity pipe line oil through a half-inch choke. This well came in as a small dry gasser on November 24.

Geological Problem

A geological problem apparently arose at Pierce Junction, just south of Houston the past week, when Rio Bravo Oil Co. hit the salt in its No. 1 G. H. & S. A. Railroad and abandoned the test. This test was around 150 feet further out from the dome proper than an old producer drilled by the Texas Exploration Co. The Rio Bravo test, which is slightly to the west of the latter well on the north flank of the dome topped the salt at 2,996 feet and drilled in it to a total depth of 3,145 feet. The Texas Exploration Co.'s well is producing from a sand 3,780 feet and never did encounter any salt.

Further puzzling is the fact that Shaw and associates' No. 1 Fitzsimmons also encountered salt and was abandoned the past week. This test is just to the east of the Texas Exploration Co.'s well and out from the main body of the dome. The Shaw test is between two producers, the one on the far side to the east being A. & P. Producing Co.'s well producing from sand at 4,485 feet. This also places Texas Exploration Co.'s well in a pocket between two salt wells.

According to geologists this would indicate that there are a series of sharp salt "fingers" extending out from the dome proper to the north consisting of ridges where the salt has been pushed to the surface. This is proved by the fact that the two producers mentioned, which in all probability are between the projecting fingers, did not hit any salt although drilled deeper than the abandoned tests which did encounter the salt. Past experience has shown that oil found in dome irregularities usually is very prolific.

Of some note the past week was Rycade Oil Corp.'s No. 5 Kountz, at Markham, which came in flowing 268 bbls. of oil in the first 18 hours from sand at 3,823 feet. Although the well was flowing some wash water along with the oil there was no trace of salt water. However, the production steadily declined until the well was flowing only wash water. Saturday the screen was being pulled preparatory to deepening the hole. The well is being drilled jointly with the Humble Oil & Refining Co.

Daily Average Production

Total daily average production in the Gulf Coast territory, including South Louisiana, for the week ending December 10, was 143,758 bbls., as compared with 141,356 bbls. of the preceding week. Production in the East Central Texas and Southwest Texas field, as shown by following tables, reflected decreases. Daily average production by fields was:

Gulf Coast

Spindletop	56,554
Saratoga	1,092
Batson	1,272
Goose Creek	7,585
Sour Lake	3,900
Hull	13,024
Big Creek	2,404
Columbia	8,570
Humble	4,550
Pierce Junction	13,565
Blue Ridge	5,167
Markham	250
Orange	3,963
Damon Mound	810
South Dayton	335
South Liberty	2,009
High Island	31
Moores Field	82
Boling	2,480
Nash Dome	1,450
Barbers Hill	600
Vinton	4,886
Starks	276
Edgerly	1,635
Evangeline	1,187
Lockport	4,487
Sulphur	500
Hackberry	735
Total this week	143,400
Total last week	141,356
Increase	2,044

East Central

Mexia	8,802
Cedar Creek	1,180
Nigger Creek	1,395
Currie	554
Wortham	2,385
Richland	670
Powell	13,331
Total this week	28,317
Total last week	28,645
Decrease	328

Southwest

Somerset	2,335
Lytton Springs	1,620
Dale	404
Luling	14,896
Miscellaneous	6,610
Total this week	25,865
Total last week	28,374
Decrease	2,509

Austin County

Two tests are drilling at Raccoon Bend, Austin County. Humble Oil & Refining Co.'s No. 1 Wilson, Saturday was in a shale and lime formation at 1,219 feet. This company's No. 2 Gotosky also was in a hard shale and lime at 1,589 feet. Except for Carlisle and associates' No. 1 Pomacal at Brenham, these are the only active tests in this county.

Brazoria County

At Damon Mound, Brazos Oil Co.'s No. 2 Wisdom encountered salt water when tested at a depth of 503 feet and has been abandoned. At Allen Dome, Roxana Petroleum Corp.'s No. 1 Allen Bernard up until Saturday night had been bailing steadily salt water from the bottom of the hole at 5,337 feet. The water has had a small showing of oil and during Friday night the well made four small heads of oil. The bottom is in a hard shale formation. Roxana's No. 4 Allen, on the Allen Dome, is drilling hard sand and lime at 4,769 feet. This test originally was drilled to a total depth of 5,384 feet but the old hole was sidetracked at 4,484 feet and the present depth is a new hole. So far the test has not encountered any showings. Roxana also has another test on this dome, the No. 1 Random, which is drilling sticky shale and boulders at 4,178 feet.

On the Clemens Dome, Roxana Petroleum Corp. has cemented 9⅝-inch casing on the bottom of the hole at 4,872 feet and at present is waiting on the cement to set before drilling in. The test is in a hard, sandy shale and lime formation.

Humble Oil & Refining Co.'s No. 4 Coon, in Brazoria County, an old well, is fishing for the 3-inch drill. This well is to be deepened but for the past two weeks has been engaged in fishing and cleaning out the hole. Gulf Production Co.'s No. 3 Perry, Stratton Ridge, is drilling at 3,640 feet. Virtually all other active tests in Brazoria County are sulphur operations under way by the Texas Gulf Sulphur Co.

Chambers County

Nothing of interest developed in the Barbers Hill district of Chambers County during the week. Humble Oil & Refining Co.'s No. 5 Meyers failed to encounter any oil showing in coring from 2,896 feet to 2,902 feet. Humphreys Corp., however, apparently is ot get a pumping well in its No. 2-B Kirby, a workover. The well is being put on the pump, and is expected to make between 50 and 75 bbls. This operator, in its No. 6-A Kirby, has pulled the screen set at 2,300 feet, where the well was dry, and is drilling deeper.

At High Island, Gulf Production Co.'s No. 2 Smith is drilling below 3,475 feet. McLean Oil Co.'s No. 10 Cade is down below 3,800 feet. The latter company's No. 11, on the Cade lease, is drilling around 3,210 feet. No. 6-C Cade is sidetracking around 2,150 feet.

The only active test at Lost Lake still is Pure Oil Co.'s No. 1 Lost River, which Saturday was in gumbo at 1,873 feet. Pure Oil Co.'s other contemplated tests, for five of which locations have been staked for some time, are not being drilled pending developments in the active test.

Colorado County

A location was staked for another test in Colorado County the past week, this being by the Rich Oil Corp. for No. 1 Von Rosenburg fee on the John Hadden Survey. This is about 1½ miles east of Columbus, the county seat. B. A. Johnson is getting ready to start drilling in his No 1 Breeding in this county, for which a location was staked the previous week. The only other test in the county is Merritt Drilling & Development Co.'s No. 1 Screck, 1½ miles southeast of Ellinger. The latter, however, has been shut down at 469 feet for many weeks.

Fort Bend County

Three new wells were added at Blue Ridge the past week in Gulf Production Co.'s No. 10 Luscher, Tom Blakely and associates' No. 1 Blakely, and J. S. Abercrombie & Co.'s No. 4 West Schenck. The first made an initial production of 1,500 bbls. daily from a total depth of 4,295 feet. The second came in flowing 800 bbls. daily from a sand at 2,625 feet while Abercrombie & Co.'s well flowed at the rate of 500 bbls. daily from 3,890 feet.

H. R. Cullen and associates' No. 1 Blakely, at Blue Ridge, is drilling gumbo around 3,500 feet. Cunningham Production Co.'s No. 3 Blakely, in this district, was dry at 3,000 feet but is being deepened. Gordon, Folwell & Dickson's No. 1-A Blakely is bailing at 1,975 feet but as the week closed it had not been learned what this test would do. Gulf Production Co.'s No. 13 West Schenck is drilling at 2,774 feet.

Navarro Oil Co. has a location for a new test at Blue Ridge, the No. 4-B Robinson heirs. This location follows the completion a week ago of Navarro's No. 1-B Robinson making around 100 bbls. of net oil at 4,040 feet. Sam Watts also has a location for a new test at Blue Ridge. This will be the No. 2 Blakely. No. 1 Blakely hit salt and was abandoned the first of the month.

At Moore's Field, also in Fort Bend County, Gulf Production Co. is drilling at 3,452 feet in No. 14 Moore. Gulf's No. 44 Davis at Big Creek is drilling at 3,871 feet. Gulf also has started to work over another of its old Big Creek wells, the No. 34 Davis and Saturday was reaming at 2,777 feet.

Two tests are being drilled by the Gulf Production Co. at Long Point. No. 2-A Beard is down 3,092 feet. No. 6 Woolf has just started drilling and Saturday was at 975 feet.

Humble Oil & Refining Co.'s No. 1 Sugar Land Industries, DeWalt, is being rigged up and probably will start drilling the coming week.

At Nash Dome, Rycade Oil Corp. is drilling gumbo at 2,724 feet in No. 19 Wisdom. This test passed up a water sand at 2,552-61 feet. No. 18 Wisdom is drilling below 3,850 feet in hard lime. No. 20, on this lease, is in gumbo at 1,542 feet, and operations are to be started at No. 21 the coming week with the rig already up.

Hardin County

Gulf Production Co. got a small pumper at Saratoga when No. 17 Tabor was put on the beam making 80 bbls. daily with some water and sediment. Production is from a sand at 1,718 feet. This company now is moving in a rig to deepen No. 13 on this lease. The latter is an old producer. Regna Oil Co. is drilling at 1,190 feet in No. 2 Teel, and Sun Oil Co. at 2,125 feet in its No. 137 on the M. & M. lease. Rio Bravo Oil Co. encountered salt water at 1,790 feet in No. 104 on what is known as the D lease.

At Batson, also in Hardin County, East Batson Oil Co. has completed No. 7 Bates pumping 15 bbls. of oil daily from sand at 1,160 feet. Another Batson test, The Texas Company's No. 1 Saratoga State Bank, has been abandoned after

(Continued on Page 126)

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New Test on Rim of Trinidad Coal Basin, Huerfano County, South Central Colorado, a Pennsylvanian Test

By Tolbert R. Ingram
Staff Correspondent, Rocky Mountain Area

DENVER, Colo., Dec. 12.—The Rocky Mountain district from Canada to Mexico was visited this week with a cold wave, the most severe experienced so far this winter, and which in some areas reached the intensity of a blizzard. The thermometer dropped to 10 degrees below zero at Denver, with much lower temperatures in exposed districts and in some localities going down to 25 and 30 degrees below the naught. The storm was accompanied by snow in most of the territory, and the result was a slowing up of drilling operations. More wells are being shut down for the winter. In such areas as Moffat County, Colorado, Oregon Basin in Wyoming, and other districts where drilling will continue during the winter, preparations generally have been completed for all requirements. Pipe line construction in Moffat County is being rushed so as to get the pipe under ground before the earth freezes.

A new test on the rim of the Trinidad coal basin, in Huerfano County, south central Colorado, was announced this week. It will be drilled by the Kinney-Coastal Oil Co. for its joint account with the Texas Production Co., and will be a Pennsylvanian test. A showing below 4,100 feet in a wildcat 5 miles northwest of the Fort Collins Dome, being drilled by the West Side Development Co., is attracting some attention, as it is believed to be bottomed in the lower Pennsylvanian. Union Oil Co. of California is drilling in its No. 6 Buckeye on the Wellington Dome, and the Parker Club's No. 1 Adams, in Las Animas County, has cut another water sand at 3,720 feet. A marker found in the Texas Production Co.'s No. 10 Knowlton, a Sundance sand test on the Moffat Dome, shows the Sundance has not yet been reached, contrary to former reports. Texas Production Co. has another shale well in its No. 1 Wilbur Rule on the Tow Creek Dome in Routt County.

Utah Gas Well

A show for a large gas well has been encountered in the Midwest Exploration Co.'s No. 3 Ashley Creek, in eastern Utah, in the Morrison sand at below 1,600 feet. The objective is the underlying Sundance. Diamond Oil Co. is starting a deep test in Diamond Canon, in Utah County, and the Mid-American Oil Co. is financing its deep test in Washington County.

In Wyoming, the Salt Creek Consolidated Oil Co. had a water well on the southwestern side of Salt Creek, and the Wyoming Associated had a 20-bbl. shale well. One completion in the La Barge district by the California Petroleum Corp. had an initial production of 200 bbls. The John Ackard wildcat in Converse County, which has cut 1,100 feet of granite, has been shut down for the winter.

A showing of oil at 260 feet in a wildcat 11 miles southeast of Raton, in Colfax County, New Mexico, attracted some attention. The Texas Production Co.'s No. 2 Robinson, in Eddy County, is due to reach the pay this week.

Colorado

Another Colorado test located from the beaten paths of the wildcatters was announced this week. A location has been made on the SE, Section 24-26s-68, in Huerfano County, in the south central part of the state, 15 miles northwest of Walsenburg, for a well to be drilled by the Kinney-Coastal Oil Co. for the joint account of itself and the Texas Production Co. Huerfano County joins Las Animas County on the northwest. The location is 72 miles west and 12 miles north of the Las Animas County test in Section 23-29-56, announced last week, which will be drilled by the Phillips Petroleum Co. jointly with the Reiter-Foster Oil Co. and the Texas Production Co. The new location is approximately 45 miles south and a little east of the Florence Pool in Fremont County, the second oldest producing field in the country.

The Huerfano County location is on a well-defined structure approximately 3 miles long and 1½ miles wide, which lies parallel to the Greenhorn Mountain uplift and on the northwestern flank of the Trinidad coal basin. The structure, which is in the Cretaceous formation, is partially covered by a gravel mesa and for that reason has been named the Escondido anticline (Spanish for hidden anticline) by H. W. C. Prommel, geologist for the Kinney-Coastal company. The dome was discovered and leased by H. W. Steffen, geologist and independent operator of Pueblo, Colo. The test is expected to reach the Timpas lime at 800 feet; the Carlisle sandstone at less than 1,000 feet; the upper Dakota at 1,400 feet; the Lakota at 1,550 feet; the Morrison at 1,800 feet; and the Pennsylvanian sands and conglomerates at 2,200 feet. This is, perhaps, the first oil and gas test on good structure that has been attempted on the flanks of the great Trinidad coal basin and for that reason will be watched with more than the usual interest. Live oil seeps are frequently found in the coal mining operations adjacent to the Escondido anticline. This oil appears to come from the top of the Pierre shale and moves upwardly through the Trinidad sandstone wherever this sandstone is fractured. Test pits, 40 feet or more in depth, which were sunk in the gravel mesa to discover whether the dome had a north closure, gave such positive results that final leasing details were completed quickly and arrangements made between the two companies for the drilling of a test well. The geology has been checked and approved for drilling by the geological staff of the Texas Production Co. as well as by H. W. C. Prommel and H. E. Crum for the Kinney-Coastal company. A well drilled 25 years ago in a syncline near St. Mary's, 3 miles southeast of the structure, encountered gas and water at 1,700 feet. This well still makes a noticeable quantity of petroleum gas through the accumulation of rocks, pieces of iron and other debris dropped into the well by curious visitors. The location of the new test is approximately 16 miles northeast of a well drilled on Section 10-29-69, near Oak View, last year by the Panuco Exploration Co. which had some gas in the top of the Dakota at 3,462 feet. Same interests are at present drilling Oak View No. 2 on the same section.

Wildcat Has Showing

An interesting development was reported this week in a wildcat northwest of Fort Collins, in Larimer County, which seldom gets into the scout reports. This is the West Side Development Co.'s No. 1 Besaw on the NE Section 5-8n-69, about 5 miles northwest of the nearest producer on the Fort Collins Dome. The formations rise abruptly west of the Fort Collins structure and outcrop only a few miles distant.. No. 1 Besaw is reported to have encountered a showing of live oil at 4,190 feet while drilling in a wet hole. The oil is appearing in sufficient quantities to percolate through a hole full of water. The value of the discovery is hard to appraise at present, but an effort will be made to shut off the water and make a test. The well has been drilling for more than a year and a half. It had a small show of oil at 410 feet and topped the Frontier at 1,493 feet. It topped the Muddy sand in the Dakota at 2,024 feet and had a show of oil in the upper part of that horizon. The Dakota group was 382 feet thick. This log indicates that the well is near the bottom of the Pennsylvanian and probably the deepest test, geologically, ever drilled in the state. It is located about 5 miles north and west of a well drilled by the Poudre River Oil Co. in Section 33-8-69, which topped a sand at 3,328 feet that had a show in what was believed to be one of the Pennsylvanian sands.

On the Wellington structure in Larimer County, the Union Oil Co. of California's No. 6 Buckeye, NW NE, Section 31-10-68, topped the Muddy sand at 4,385 feet, showing considerable quantities of both oil and gas. At last reports it was 5 feet in the sand and the hole was standing full of oil. It appears to be about 100 feet lower than the discovery well on the same section which started the Colorado excitement on November 11, 1923, when it blew in as a 80,000,000-foot gas well spraying oil all over the landscape. Same company's No. 1 Blunck, NW cor., Section 30-8-68, Fort Collins Dome, an edge well in the Muddy which is being deepened to test the lower sands, is drilling below 4,800 feet, and the Lakota sand is expected at 4,900 feet. This is the only active operation on the Fort Collins Dome, though one well is drilling in addition to No. 6 Buckeye, and two others are being started on the Wellington Dome.

The Northeastern Colorado Oil Co.'s No. 1 State, Section 36-8n-55, on the Willard Dome in Logan County, is still drilling at 5,435 feet. It is still in the Dakota formation, but has passed through the main Dakota sand which proved to be 128 feet thick. It was not a solid sand, but is said to have been nearly so. It was dry at the top, but water came in after it had been drilled about 11 feet. Dean E. Winchester, consulting geologist of Denver, has been furnished with samples of cuttings and log of the well and he has advised the company to continue drilling as long as possible in an effort to test the Lakota which now is expected at almost any time. The company has announced its intentions of releasing the log of this well to the public as soon as it is completed, and in view of the location of the test and the uncertainty that has existed concerning the plains region, it will be examined with considerable interest.

In Las Animas County, the Parker Club's No. 1 Adams, Section 32-34-56, near Branson, went into another dark gray water sand at 3,702 feet after going through 4 feet of hard gray lime, and passed out of the sand and back into lime at 3,720 feet. The 6⅝-inch casing is being underreamed to lower to the top of the lime to make a shutoff. A new 6,000-foot drilling line has been installed.

Sundance Test

In Moffat County, interest centers at present in the Texas Production Co.'s No. 10 Knowlton, Section 33-5-91. This is the only drilling well on the structure and is intended as a test of the Sundance. Since topping the first sand in the Morrison at 4,226 feet, it has cut four other horizons, one of which was at first believed the objective. However, the opinion now held is that these sands are all members of the Morrison formation. The test had 5,000,000 feet of gas in the first sand and in other horizons made considerable oil. At present it is drilling at 4,401 feet and making from 100 to 300 bbls. of oil between the 4¾ and 6¼-inch casings, and has a little oil at the bottom of the hole. The 4¾-inch has been landed at 4,379 feet. At 4,401 feet the hole went into a blue shale which was encountered 30 feet above the Sundance in the Iles wells, indicating the Knowlton well is not yet in that horizon. It looked like the well would be a failure in what was believed to be the Sundance this week when it had 1,600 feet of water in the hole. Traces of oil commenced showing through the water after the latter had stood for several days. This was exhausted by swabbing and the well was estimated at 8 to 10 bbls. a day. It is now believed that this water came from a thin stratum of slate in the Morrison and that it has little effect on the final outcome of the test.

Iles Dome Activity

The Iles Dome in Moffat County continues the most active operation in the state, though there were no important developments during the week. Activities at present are centered on laying the lines by the Texas Production Co. from the Iles Dome to the Moffat Dome and by the Midwest Refining Co. from the Moffat Dome to Craig. This work is being rushed so that the line can be buried before the ground freezes as it is desired to push operations through the winter as fast as possible. More than a dozen contracts have been let in connection with the two projects, including trenching, clearing ground for storage tanks, loading racks, etc., and stringing the pipe along the routes. The program for the Midwest includes a railroad spur and the erection of a 55,000-bbl. tank at Craig. An electrically equipped pump station will be constructed at the rail terminal. The companies also are making additional provisions for employes, building roads and carrying on other activities so that operations may continue during the winter.

Midwest Refining Co.'s No. 34-SD Parkinson, SE SW, Section 22-4n-92, is running the 6¼-inch casing at 3,110 feet after killing the 11,000,000 feet of dry gas in the Morrison at 3,052-70 feet. Same company's No. 4-SD Shaw, NW NE, Section 27-4-92, joint with the Yarg Producing & Refining Co., which commenced making oil at 3,276 feet after passing through a sand at 3,236-76 feet that made 15,000,000 feet of dry gas, was put into condition for a test this week and made 1,010 bbls. in the first 24 hours through a five-eighths-inch choke, with a back pressure of 610 pounds and a line pressure of 210 pounds.

The way this well came in is a little unusual. At 3,276 feet, the 8¼-inch bit was dropped. It was while fishing for this bit that a thin shell was cracked, releasing the oil. The performance of this well with the bit in the hole makes it look like it would be a big one if the hole were cleared and deepened a foot or two. An effort now is being made to recover the bit. The Midwest's No. 8-SD Parkinson, NW NW, Section 23-4-92, is drilling in brown shale at 750 feet. Texas Production Co.'s No. 6 Parkinson, NW NW, Section 23-4-92, is

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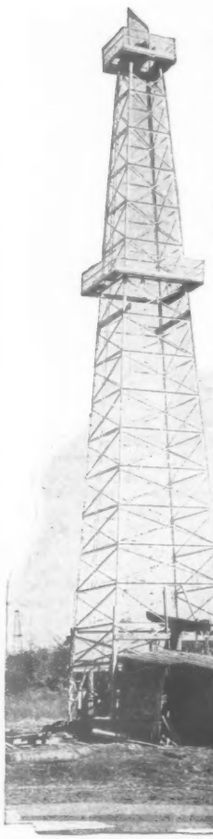

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drilling at 2,577 feet. Same company's No. 13 Parkinson, NE SW, Section 22-4-92, is rigging up. Shaffer Oil & Refining Co.'s No. 205 Yarg, NW NW, Section 26-4-92, joint with Yarg Producing & Refining Co., is drilling at 1,400 feet. The 12½-inch casing was set at 1,365 feet.

In Routt County, the Texas Production Co.'s No. 1 Wilbur Rule, SW NE, Section 5-6n-86, Tow Creek Dome, commenced showing oil in shale at 3,905 feet and at 3,955 feet had 800 feet of oil standing in the hole. The 6¼-inch casing is being underreamed to lower to the top of the pay. This well is more than a mile to the north of the producers with the exception of No. 1 Irwin-Carstarphen in the SE NW, Section 5, a good producer from the shale. Between these two wells and the other producers a dry hole was drilled. Since the oil from the two groups is of a different grade, it is believed that they are separated by a fault.

Southeastern Colorado Test

Another test for southeastern Colorado is assured through an announcement that the Reiter-Foster Oil Co. is preparing to skid the rig on its No. 1 Bell Ranch, SW SW SE, Section 29-26-57, on the Timpas Dome in Otero County, and start a new hole. This test was spudded in on December 15, 1926, by the Timpas Dome Syndicate and drilled to 615 feet when a crooked hole developed. The past summer the syndicate disposed of its holdings to the Reiter-Foster company and Paul Ache, head of the syndicate became president of the company. The holdings will be transferred to a subsidiary, the Timpas Dome Oil Co. This is to be a Pennsylvanian test and will be drilled to 3,500 feet if necessary. This will make three wells drilling in Colorado in which the Reiter-Foster people have a large interest or is drilling on its own account. One of these is on the Hiawatha structure in Moffat County, where important results are expected at almost any time, the company doing its own drilling, and another is the Las Animas County test to be drilled by the Phillips Petroleum Co., jointly with Reiter-Foster and the Texas Production Co. The Reiter-Foster company is building up a strong organization in this territory. Paul Ache, the president, has been active in the Rocky Mountain district for several years, having come here from Pittsburgh. C. S. Hill, who is in charge of the land department, formerly was Commissioner of Immigration for the State of Wyoming where he was in a position to gather first hand information concerning this territory. The Otero County test is looked upon as of equal importance with the tests being started in the Las Animas and Huerfano Counties. The structural geology was checked by the geological staff of the Marland Oil Co. of Colorado.

Preparations for spudding in the Las Animas County test of the Phillips Petroleum, Reiter-Foster Oil and Texas Production companies on the Red Rock structure are being rushed as fast as possible. The location for this test is in the NW NE, Section 23-29s-56. Road has been completed through Minnie and Beattie Canons and first material will be unloaded within the next few days. In order to save time, the derrick, rig irons, tools and pipe are being shipped by truck from Kansas. The contract calls for a 4,000-foot test and the top of the Pennsylvanian is expected at around 1,950 feet. It will be drilled with cable tools and a gasoline engine will furnish the power. The Reiter-Foster company has approximately 27,000 acres on the structure.

There is considerable mystery concerning the recent report that E. W. Marland had announced that the Marland Oil Co. of Colorado will drill on the Freezeout structure on the boundary between Las Animas and Baca Counties. Officials in Denver are silent on the subject, but it has been expected for some time that the company would make a test in that area.

Enormous quantities of pipe and material are being unloaded at strategic points for the new Amarillo-Denver gas line. The way this work is being rushed indicates that the line is to be put through as fast as possible.

Utah

Utah got a large gas well last week in the Midwest Exploration Co.'s No. 3 Ashley Creek, Section 23-5s-22e, in Uintah County, being drilled for the Utah Oil Refining Co. and affiliated interests. It was in a sand, the first Morrison, at 1,655 feet, and the gas pressure was sufficient to clean the hole of water which had been run to hold back the pressure. No gauge of the flow has been made, but it apparently is a large well. Underreaming is in progress to lower the casing and make a shutoff so that drilling may continue. This location is 500 feet east of No. 1 Ashley Creek, drilled in 1925, which had a flow of 60,000,000 feet of gas in the Morrison at 1,685 feet. At that time the Sundance sand, which underlies the Morrison, had not been proven in Colorado, and the well was shut in as a gasser. When oil was found in the Sundance on the Iles Dome in Colorado last March, it was decided to make another test at Ashley Creek, which lies directly west from the Iles operation. No. 2 was started a little to the west of and on the same section as No. 1, but was abandoned at 708 feet upon finding water in the Frontier, this marker proving that the second location was down structure. The rig was then moved to the east of No. 1 where No. 3 was started. It will be carried on down to the Sundance which is expected at around 1,900 feet, unless lower Morrison sands should yield oil production. The well is logging similar to the Iles wells and gives considerable encouragement for opening a pool in that region.

A deal is reported from Salt Lake City which indicates that the Mid-American Oil Co.'s test on Section 17-43-15, Bloomington Dome, in Washington County, in southwestern Utah, will be completed as a deep test. Washington County has some small pumpers from a shallow depth and at one time was petroleum reserve held by the Government. The Mid-American test was started last winter with a rotary rig, but extremely hard formations made it advisable to change to cable tools. The test is now bottomed at 1,000 feet, and it is intended to drill it to 3,500 feet, if necessary. The Allen-Beck Co., of Salt Lake City, has acquired a stock interest in the Mid-American and has made arrangements with the Arrowhead Petroleum Co., whereby the joint interests will undertake the financing of the well to the extent of $100,000.

Drilling Operations

Drilling operations in Utah revealed nothing out of the ordinary for the week outside of the gas discovery at Ashley Creek. Utah Southern Oil Co.'s No. 1 Frank Shafer, Section 6-27-21, Cane Creek Dome, is continuing its efforts to put the well on production from the 2,025-foot horizon. The well is making enough oil, which is being stored, to furnish fuel for the flank test. No. 1 John L. Shafer, Section 36-26-20, a mile to the north of the discovery, where standard rig is now being erected. Utah Southern has taken over the drilling contract on its No. 1 Canyon, Section 18-41-19, on the east anticline in San Juan County, and will drill it to completion. It is now below 1,400 feet and is being finished with a diamond drill. Continental Oil Co.'s No. 1 Boundary Butte, SW Section 23-43-22, is still working on casing at 1,590 feet, and has not made any new depth since it was shut down several years ago pending outcome of litigation with the Government. It was originally drilled by the Southwest Oil Co., but after Congress passed remedial legislation, the operation was taken over by the Continental to be drilled for the affiliated interests.

Embar Oil Co.'s No. 1 Big Six, Section 34-25-21, near Moab, is drilling below 4,285 feet in limey shale. Texas Production Co.'s No. 1 Shipley, Section 5-27-14, Sweetwater anticline, is bottomed at 1,190 feet and underreaming to lower 10-inch casing to make a water shutoff. Test is bottomed in the Chinlee formation and is believed to be nearing the first objective sand. Phillips Petroleum Co. has let contract for $15,000 worth of road construction to open the way to location for its test in Wayne County on the Barrier Creek anticline on Section 16-27-16. Drilling equipment will be moved in as soon as road is completed. Beaver Valley Oil Co.'s No. 1, Section 19-25-9, in the Black Rock area, is drilling in Pennsylvanian shale at 2,945 feet after making a successful water shutoff at 2,895 feet.

The Diamond Oil Co. is starting an interesting test in its No. 3, NE Section 29-8s-5e, in the Diamond Fork Canon in Utah County upon what is known as the Buskirk anticline, a structure comprising about 10,000 acres controlled by that company. The structure is on the western rim, or uplift of the Uintah Basin country and in a district where thick saturated sands are exposed by the canon erosion. Three sands are expected at 1,600, 3,100 and 3,900 feet, the 3,100-foot sand being estimated at between 200 and 225 feet thick. It was in this vicinity that one of the first refineries constructed in the Rocky Mountain area was built. The Mormon pioneers dug a shaft into the oil sand and with the aid of heat and water recovered oil that was used for lubricating purposes. The Diamond Oil Co. also is drilling on the SW Section 3-9-4, in the same canon. This test is bottomed at 2,151 feet and arrangements are being made to finish the well with a diamond drill. No. 1 well in the same general location was drilled several years ago and brought in a good showing of oil, probably 5-bbls. a day at 407 feet.

Wyoming

The blizzard which swept down upon the Rocky Mountain States this week had its effect on drilling operations in Wyoming which were materially slowed up. More wells were reported shutting down for the winter. These included the Producers & Refiners and Marland Oil Co.'s joint test on Section 26-20-104, on the North Baxter Basin structure in Sweetwater County. It suspended at 485 feet. It is hard to appreciate the difficulties which have to be faced in drilling in winter in such areas as these. Frequently the thermometer goes down to 30 to 40 degrees below zero and aside from the hardships of working in such weather, it is almost impossible to maintain water and fuel supplies. The only active operations under way in Sweetwater County are those which are trying to finish up. The Prairie Oil & Gas Co.'s No. 7-B, Section 14-26-90, in the Lost Soldier area, is underreaming the 6⅝-inch casing at 1,300 feet, and the Utah Oil Refining Co.'s No. 7-A Hughes, Section 2-26-90, in the same district, has completed drilling by pipe and is preparing to run casing. It is bottomed at 2,525 feet. The Prairie has three wells in this county shut down.

Two completions were reported in Salt

(Continued on Page 132)

SKIFF FIELD WELL GIVES LARGER PRODUCTION THAN WAS PROMISED

By Victor Lauriston
Staff Correspondent, Canadian Fields

CHATHAM, Ontario, Dec. 12.—In the Skiff Field, southern Alberta, close to the Montana boundary, Devenish Petroleum No. 1, LSD 5, Section 27-5-14w4, has been bridged back to the original oil sand encountered at 3,090 feet, and is now being put on the pump. At 3,160 feet, where drilling was discontinued, the test apparently had been carried some 45 feet into the Madison limestone. This formation previously having proved consistently unproductive in the border field, it was decided to go back to the first oil horizon, where a bailing production of 250 bbls. a day had been encountered.

After bridging back from the Madison lime, it was discovered that instead of a 15-foot oil sand, as first indicated. Movement of pumping equipment to the well has been held up by heavy snowfalls and bad roads, but it is expected to have the well on the pump by December 15, when a 30-day pumping test will be made. The production, which is a heavy crude, around 22 Baume, is thought to come from a horizon in the Ellis sand. Some tanks have been provided at the well and the production will be hauled to the nearest railroad point at Skiff, whence it will be transported by tank cars to the Imperial Oil, Ltd., refinery at Calgary. Imperial Oil, Ltd., is understood to have contracted for the entire production under the development agreement made with Devenish Petroleum, Ltd. It is expected that regular shipments will commence the latter part of December.

Drilling Suspended

No further drilling will be undertaken on the Devenish acreage this fall, but next spring Imperial Oil, Ltd., will undertake a comprehensive development program involving the drilling of at least 10 wells. It is expected that Nos. 2 and 3 wells in the Imperial-Devenish program will be drilled simultaneously. No. 2 will probably be drilled a little west of No. 1 and somewhat higher on the structure. Illinois-Alberta Oil & Refining Co. of Calgary has a tentative location in NE of Section 26-6-15w4 and will also drill in the spring. United Oils, Ltd., of Calgary will put down a test next spring northwest of Devenish Petroleum No. 1. Operations throughout Alberta have been handicapped recently by heavy snowstorms, making the roads impassable, subzero weather also interfering with drilling in many locations. It is expected that a number of tests will shut down for the winter.

In the Turner Valley Field, southwest of Calgary, Imperial Oil, Ltd., has further extended its interests through purchase by the Home Oil Co. of some 200 acres held by the Alberta Pacific Consolidated, in LSDs 2 and 7, Section 20-19-2w5, and also the Alberta Pacific Consolidated part interest in LSDs 10, 14 and 15, same section. The deal, which has been in process of negotiation since September, gives the Home Oil Co. the acreage right down the Turner Valley structure to the south of its original holdings on which Home Nos. 1 and 2 were drilled, and this new acreage will be included in the drilling program undertaken by Imperial Oil, Ltd., under its agreement with the Home Oil Co. earlier in the year. The purchase price is understood to have been $200,000 cash and a 20 per cent interest in the Home Oil Co., equivalent to 150,000 shares, representing an approximate cash and stock value of $3,000 an acre. Alberta Pacific Consolidated still holds 120 acres in Section 20-19-2w5, including LSDs 4 and 4 and a royalty interest in LSD 11 subleased to the Dallas Oil Co. It is understood that Alberta Pacific Consolidated will undertake actual development work on its remaining holdings soon.

In Unidentified Formation

British Dominion Oil Development Corp., LSD 4, Section 5-20-2w5, is at 6,080 feet with casing run to 6,036 feet. The casing will be carried deeper before drilling is resumed. The drill apparently has passed from the Kootenay into a different formation which has not yet been identified.

Royalite Oil Co. No. 7 producer, LSD 3, Section 13-20-3w5, is on the pipe line.

(Continued on Page 96)

California Starts New Upward Swing

Expected to Add Another 50,000 Bbls. Within Six or Eight Months, Due to Deeper Drilling at Long Beach, Seacliff and Ventura Avenue Fields

By L. P. Stockman
Staff Correspondent, California Fields

LOS ANGELES, Calif., Dec. 10.—A general survey indicates that California has just started another major upward swing which may perhaps add better than 50,000 bbls. to the State's daily production within six or eight months. This anticipated increase is expected to result primarily from exploitation of the deep sand at Long Beach and new drilling in the Seacliff, Ventura Avenue, Potrero and Kern River Fields. Long Beach is expected to account for the greater part of the new production to be added in 1928 although subsequent developments may prove the newly discovered Seacliff Field in Ventura County to be more prolific than some anticipate. Drilling operations in the former area are getting well under way and with 172 new wells and deepening projects already headed down to the deep sand this field is expected to show an appreciable gain early next year. Daily production at Long Beach has increased approximately 20,000 bbls. during the past 10 weeks due practically exclusively to deep drilling. The increase in production has been rather gentle and while the gain during the next few weeks will probably also be gradual there will be a definite stiffening until along about the latter part of January, after which the daily output is expected to register substantial gains, due to the completion of numerous new wells.

The Ventura Avenue Field, a contributing factor in the production increase anticipated during 1928, is not a menace in any sense nor is that district expected to show any very great change from its present yield. There are 25 drilling projects under way in this field, practically all of which are expected to be finished during the next six months unless steps are taken to curtail work. If everything goes along according to schedule these 25 new wells upon completion should have a tendency to add about 15,000 bbls. of settled net production to the field's output, due allowance having been made for normal declines in both old and new wells. This might be justly classed as of minor importance, but it will nevertheless offset a further settling which must ultimately occur in the town lot area of the Seal Beach and Huntington Beach Fields. The Kern River Field is expected to show a small gain in 1928 due to additional drilling out along the west front where approximately 90 new producers have been placed on production during the current year with a resulting increase of something like 7,000 bbls. This new work is expected to force daily production up another 4,000 bbls. if operators go through with present plans which contemplate drilling 75 new wells.

Pipe Lines for Seacliff

The rapidity with which work is getting under way at Seacliff indicates that a concerted effort will be made to develop sufficient production to warrant the linking of this field with two major pipe line systems. The initial well at Seacliff has indicated a possibility that operators may experience a little difficulty in developing clean commercial production in the state zone, which lies at approximately 3,000 feet, although the Pan American has just completed No. 1 State, the discovery well, doing 1,000 bbls. of clean 29.8 gravity oil and 350,000 feet of wet gas daily. The potentiality of the Seacliff Field really lies in the deep Hobson zone, which has not been given a test of any kind on the apex of the structure. The Chanslor-Canfield Midway Oil Co. intercepted this strata in Nos. 1-A and 1-B in the extreme eastern part of the field and, while neither well has been finished, this is because both developed mechanical trouble. The state zone will probably not prove as prolific as anticipated, although this supposition is only a matter of conjecture in view of the limited amount of data available at present. The lower, or Hobson horizon, on the other hand, seems to offer better possibilities and while no one is shooting for this sand it will receive due consideration.

Additional Litigation

Developments in the Seacliff area, west of the prolific Ventura Avenue Field, were further complicated by additional litigation instituted by the Bailard & Hobson interests, littoral landowners, seeking injunctions against operators holding drilling permits on state tide lands. The basis for the present litigation dates back several months when R. N. Ferguson secured a permit from the surveyor general of the State to drill on tidelands fronting on the Hobson property. He later assigned the permit to the General Petroleum, but the latter has been prevented from engaging in actual drilling due to legal action. Neil C. Needham, E. D. Whitten and W. B. Finch secured permits about the same time and this group was subsequently assigned to the Bankline Oil Co. for development. The Ferguson permit, now held by the General Petroleum, fronts on a part of the Bailard property. The complaints filed by the Hobson and Bailard interests state that the defendants have taken possession of the lands and constructed platforms, obstructions and derricks upon a strip of land below mean high tide mark. The littoral owners claim the possession of these permits by the General Petroleum and Bankline interferes with and prevents access to and use of the waters of the Pacific Ocean. The legal question is whether the State of California has the authority to issue tideland drilling permits fronting on fee owned property. On inland streams and lakes the littoral owners cannot be deprived of their frontage, several court decisions being of record on this angle. Beach frontage on an open ocean is another matter, and there is no basis for assuming that littoral owners have prior rights to tideland permits. The litigation just mentioned as being instituted by the Bailard and Hobson interests is more or less of a personal nature and designed chiefly to prevent drilling out in the open ocean beyond the high tide line if possible. If this ocean drilling can be prevented the littoral landowners holding acreage just back of the surf will have a maximum drainage area and can consequently anticipate a larger ultimte yield.

The biggest and most important legal battle is yet to be fought and while it centers around the Seacliff Field its scope is statewide. This action, unlike that mentioned, has been instituted in an effort to compel W. S. Kingsbury, surveyor general of the State, to issue drilling permits on state tidelands. The issue now being argued before the Supreme Court in Los Angeles is of special significance because of the agitation throughout the State to prevent any and all ocean drilling because of possible contamination. Back in 1921 California state legislature passed an act permitting individuals to engage in ocean drilling, but two years later this law was amended to prevent promiscuous drillng. The state surveyor general was empowered by the amendment to use hs own judgment in passing upon such application and to refuse them if he believed drilling would be injurious to other property, the general public or navigation. It is this angle of the situation which is being contested, as the surveyor general has refused to issue any more drilling permits. The outcome of this litigation is of special importance because it may set a precedent although it is not likely that any drastic measures would

(Continued on Page 128)

IMPORTANT SOUTHERN CALIFORNIA WILDCATS

Company, well, location—	S-T-R	Depth	Status
Associated, No. 1 Cypress, Potrero	34- 2-14	5,408	500 bbls.
Smith & Carpenter, No. 1 Smith	35- 2-14	5,282	rebuild rig
Hurst Oil Corp., No. 1 Inglewood, Los Angeles Co.	28- 2-14	3,772	suspended
Mont. Park Oil Co., No. 1 Browning, Monterey Park	26- 1-12	3,160	to set pipe
Associated, No. 1 Patterson, Pico	13- 2-12	3,481	sd. sh. drilling
Circle Oil Co., No. 1 Pomeroy, Manchester	23- 3-14	4,280	suspended
Shell, No. 1 Mission, San Fernando	4- 2-15	4,869	hd. sd. drilling
Sou. Calif. Drlg. Co., No. 1 Matteson, El Segundo	1- 3-15	4,870	suspended
Carr, O. K., No. 2 Foster, San Juan Capistrano	13- 8- 8	4,230	suspended
Thomason & McCoy, No. 1 Rinz, Saugus	27- 5-16	1,610	suspended
Andrews, Otis, No. 1 Lancaster, Los Angeles Co.	23- 8-13	Rig	rigging up
Southwest Pet. Co., No. 1 Ramsauer, Watts	4- 3-13	4,302	suspended
San Clemente Oil Co., No. 1 Peck, Hawthorne	20- 3-14	5,536	recemented
Horowitz, R. R., No. 1 Hawthorne, Los Angeles Co.	19- 3-14	....	location
O'Donnell, J. E., No. 1 Dupree, Hawthorne	29- 3-14	5,304	suspended
White Behr, No. 1 Watson, L. A. County	21- 4-14	3,380	hd. sd. drilling
Shell, No. 1 Allec, Placentia	31- 3- 9	5,230	hd. sd. drilling
Son, C. A., No. 1 Pinkerton, Orange Co.	5- 5-11	3,620	suspended
Ohio Oil Co., No. 1 Bolsa Dome, Orange Co.	35- 5-11	4,380	to test
Stein, Leo, No. 1 Long, Orange Co.	21- 5-11	5,135	suspended
Shell, No. 1 Stern, Orange Co.	22- 3-10	2,391	hd. sd. drilling
Hemet Pet. Co., No. 1 Ward, Riverside Co.	9- 5- 1	1,662	hd. sd. drilling
Fuller & Gray, No. 1 Puente, L. A. County	14- 2-10	Rig	rigging up
Anchor Oil Co., No. 1 Hudson, Los Angeles Co.	19- 2-10	2,395	suspended
Mesa Pet., No. 1 Newport, Orange Co.	21- 6-10	192	sd. drilling
Pet. Securities, No. 1 Fairview, Orange	3- 6-10	3,997	hd. sd. drilling
Davenport O. & G. Co., No. 1 Escondido, San Diego	25-12- 2	310	sd. drilling

IMPORTANT NORTHERN CALIFORNIA WILDCATS

General Pet. No. 2 Ochsner, Kettleman Hills	26-22-18	5,305	br. sh. drilling
South Coalinga, Well No. 1, Kettleman Hills	35-24-19	2,930	pipe trouble
Monocline Dev. Co., Well No. 1, Kettleman Hills	7-21-21	4,221	br. sh. drilling
McPhail, Hugh, Well No. 1, Kettleman Hills	13-24-18	2,095	suspended
Milham Expltn., No. 1 Kettleman, Kings Co.	2-22-17	5,910	slight show
Shell, No. 2 Berlywood, Moorpark	32- 3-20	6,084	reaming
Star Petroleum, No. 2 Canet, Ventura Co.	13- 3-23	3,691	hd. sd. drilling
Continental Oil Co., No. 1 Burnham, Ventura Co.	22- 5-18	3,488	hd. sd. drilling
Standard, No. 1 Camarillo, Ventura Co.	29- 2-20	5,718	hd. sd. drilling
Standard, No. 1 Saticoy, Ventura Co.	9- 3-22	388	sd. drilling
Petroleum Sec., No. 1 Diablo, Ventura Co.	26- 5-18	3,577	gr. sd. drilling
Bolsa Chica Oil Co., No. 1 Hidden, Ventura Co.	5- 4-18	....	location
Parkford, E. A., No. 1 Strathern, Ventura Co.	5- 2-18	4,002	to test
Shell, No. 1 Strathern, Ventura Co.	6- 2-18	1,004	hd. sd. drilling
Miley Oil Co., No. 1 Red Mountain, Ventura Co.	7- 3-23	980	suspended
Richfield, No. 27 Piru, Ventura Co.	35- 5-18	1,902	suspended
Superior Oil Co., No. 1 Fillmore, Ventura Co.	33- 4-20	Rig	rigging up
Milham Explt'n., No. 2 Buttonwillow, Kern Co.	8-28-23	4,662	gas well
Milham Explt'n., No. 2 Kern, Kern Co.	8-28-23	Rig	rigging up
Milham Explt'n., No. 3 Buttonwillow, Kern Co.	7-29-24	4,150	suspended
Morris, F. L., No. 1 Semitropic, Kern Co.	16-27-23	....	location
Pacific Eastern, No. 1 Fruitvale, Kern Co.	21-29-27	3,360	gr. sd. drilling
Pacific Eastern, No. 1 Bakersfield, Kern Co.	6-30-28	4,715	deepening
O'Donnell, J. E., No. 1 Union Ave., Kern Co.	7-30-28	....	location
Barnes, L. S., No. 1 Stine, Kern Co.	11-30-27	....	location
General Pet., No. 1 Edison, Kern Co.	5-30-29	4,009	looks good
Getty, George F., No. 1 Edison, Kern Co.	22-29-29	3,717	plugging back
Midway Northern, No. 1 Edison, Kern Co.	29-29-30	Rig	rigging up
General Pet., No. 1 Mon Bluff, Kern Co.	21-27-28	1,720	good show
Union, No. 1 Mon Bluff, Kern Co.	28-27-28	1,750	looks good
Shell, No. 1 Mon Bluff, Kern Co.	5-28-28	3,268	hd. sd. drilling
Superior, No. 1 McFarland, Kern Co.	11-26-27	3,232	gr. sd. drilling
North American, No. 1 Wallace, Delano	5-25-26	3,703	fishing
Fresno Madera Oil Co., No. 1 Clovis, Fresno	18-12-21	3,830	hd. sd. drilling
Barneyberg Oil Co., No. 1 Brown, San Luis Obispo	25-32-14	2,205	to test
Richfield, No. 1 Wreden, San Luis Obispo Co.	10-29-17	2,303	hd. sd. drilling
Miley Ex. Co., No. 1 Carissa, San Luis Obispo Co.	15-29-17	1,583	sd. drilling
Union Oil Co., No. 1 Huasna, San Luis Obispo	34-32-15	Rig	rigging up
Shell, No. 1 Cowell, San Mateo Co.	8- 6- 5	5,060	hd. sd. drilling
Shell, No. 1 Rossi, Petaluma	8- 5- 6	Mtl.	building rig
Shell, No. 2 Murphy, Petaluma	8- 5- 6	1,960	to abandon
Thomas & Hammill, Well No. 1, Alameda Co.	16- 3- 3	1,470	suspended
Buttram, F. W., No. 1 Odin, Santa Barbara Co.	20-25-27	1,588	hd. sd. drilling
Elliott & Clarke, No. 1 Marcos, Santa Barbara Co.	3- 6-29	3,452	br. sh. drilling
Gorham, G. O., No. 1 Orcutt, Santa Barbara Co.	33-10-34	Mtl.	building rig
Becker, G. F., No. 1 Summerland Santa Barbara Co.	33- 4-25	3,060	water trouble
Pet. Exp. Co., No. 1 Modoc, Santa Barbara Co.	20- 4-27	295	sd. drilling
Birch Oil Co., No. 1 Porterville, Tulare Co.	13-20-26	2,660	hd. sd. drilling
Fort Wayne Synd., No. 1 Goodcell, Madera Co.	22-10-17	2,250	fishing
Continental Oil Co., No. 2 Smith, Colusa Co.	31-18- 4	3,800	redrilling

TANKER SHIPMENTS FROM LOS ANGELES TO ATLANTIC AND GULF COAST PORTS

Commodity—	Total This Week	Daily Average	Total Last Week	Daily Average	This Year to Date	Same Time Last Year
Crude oil	193,165	34,388	309,367	44,195	9,438,126	10,621,703
Fuel oil	.....	.....	72,154	10,308	6,788,773	6,644,923
Diesel and gas oil	.....	.....	.....	.....	2,375,151	2,986,881
Gasoline	251,013	83,670	169,102	22,729	8,374,388	6,281,967
Tops	.....	.....	.....	.....	.....	374,504
Coastwise—						
Crude oil	559,953	79,993	231,544	33,078	22,171,802	21,506,446
Fuel oil	386,012	55,145	308,809	44,116	12,037,578	10,744,862
Diesel and gas oil	8,553	1,222	.....	.....	365,413	165,935
Gasoline	223,642	71,949	241,581	34,512	9,218,564	7,070,923
Kerosene	4,618	650	.....	.....	235,419	185,889
Tops	40,120	5,731	.....	.....	259,375	501,520
Exports—						
Crude oil	.....	.....	.....	.....	2,138,240	3,833,016
Fuel oil	689,440	96,777	479,468	68,495	25,969,735	17,025,403
Diesel and gas oil	42,860	6,123	7,550	1,079	1,307,134	532,630
Gasoline	223,144	71,878	15,125	2,161	4,824,147	4,397,187
Tops	.....	.....	75,099	10,728	302,303	141,467
Kerosene	25,365	7,624	.....	.....	1,978,832	2,646,482

TANKER SHIPMENTS, SAN FRANCISCO TO ATLANTIC AND GULF COAST PORTS

Fuel oil	.....	.....	.....	.....	.....	78,653
Diesel and gas oil	.....	.....	137,299	19,614	900,061	1,840,790
Gasoline	.....	.....	114,253	16,322	2,042,773	1,028,368
Tops	.....	.....	.....	.....	.....	73,698
Lubricants	.....	.....	69,177	9,882	439,357	407,860
Coastwise—						
Fuel oil	48,780	6,969	179,508	25,644	4,692,389	4,986,999
Diesel and gas oil	.....	.....	.....	.....	223,583	.....
Gasoline	71,057	10,151	53,323	7,618	4,688,674	4,265,938
Kerosene	.....	.....	.....	.....	213,109	301,764
Exports—						
Fuel oil	98,895	14,142	.....	.....	2,480,203	2,863,280
Gasoline	.....	.....	.....	.....	2,678,443	1,924,814
Kerosene	.....	.....	.....	.....	897,155	1,879,829
Lubricants	.....	.....	.....	.....	26,695	66,706

WATTS GAS ENGINES AND COMPRESSORS MILLER

The POWER

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Year after year WATTS-MILLER units operate on 24-hour schedules and meet without a tremor the exacting heavy-duty requirements continuous operation imposes upon them. They "do their stuff" with minimum attention and absolute rock-bottom maintenance expense.

That is why the extreme dependability of WATTS-MILLER equipment stands unquestioned among oil men who have had opportunities to observe its performance.

Capacity never over-rated

The well known WATTS-MILLER policy of rating capacities conservatively is another bulwark of WATTS-MILLER good-will. It is a highly significant fact that over a 31 year period no "check-in" has ever found a WATTS-MILLER installation incapable of doing all (and a little more) than the figures in the contract required.

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Owensboro Enjoying Old-Time Boom

Four Good Wells in Ohio County, Kentucky, Bring in Crowds of Oil Prospectors, Who Tax Hotel Capacity

By Whit
Staff Correspondent, Kentucky-Tennessee

BOWLING GREEN, Ky., Dec. 12.—Completed work was confined almost entirely to the Ohio-Daviess County area of the western division of Kentucky, only one well being reported from the eastern division which developed a gas volume. The heavy decline in new completions was caused by heavy rains in almost the entire State, high water making it difficult to get over the field, while across the line in the Tennessee area, nothing has been reported as to field work.

The 5-cent advance in the price of Somerset crude helps in paying running expenses of the many small wells that are on power plants in the Somerset price area. The west end of the Somerset grade a few years ago was Wayne County, but it has been extended to the west, taking in the Glasgow Field of Barren County and Cumberland, Monroe and Clinton Counties of Kentucky, and across the line in Clay, Pickett, Overton, Jackson and other counties in Tennessee.

Four wells for the week, all in Ohio County, were in the select class, the best being No. 2 on the Bartlett heirs' 81 acres, in the Ambrose Pool, with an initial of 200 bbls. from the Barlow sand. No. 13 on the Sally Early 100 acres, same pool, showed 100 bbls. initial. In the Sunnydale Field, a few miles southeast of the Ambrose Pool, the No. 1 on the R. A. Duke 200 acres showed 100 bbls. initial as did a second test on the J. C. Ralph 21 acres, same field.

Wells like these four are bringing oil operators from the far east and far west, even from California, as the sands are found at shallow depths and drilling costs are trifling, compared with those in the West.

The city of Owensboro, which is the jumping off place to make the field, is now realizing what a real oil boom means. Hotels are crowded with incoming oil people, recalling old-time booms in the Lima Field when hotel accommodations were scant. Owensboro is experiencing just what Scottsville and Bowling Green did some 8 or 10 years ago.

Week's Work

The summary of the week's work in the Kentucky Field showed 17 completions, 7 producers with an initial production of 546 bbls., 9 dry holes and 1 gas well. Compared with the previous week, there were 15 fewer completions, 13 fewer producers, 57 bbls. less production, 2 fewer dry holes and the same number of gas wells. The wells were distributed by counties and districts as follows:

County—	Comp.	Oil Wells	Prod.	Dry	Gas
Ohio	12	6	545	6	0
Daviess	3	0	0	3	0
Warren	1	1	1	0	0
Clay	1	0	0	0	1
Total	17	7	546	9	1
Last week	32	20	603	11	1
Difference	15	13	57	2	0

Hayden Well

The well on the Hayden farm, drilling by C. L. Young and others, has not yet been reported on the pump, although it is said to make such an excellent showing that big prices for surrounding acreage are asked and the leaseowners are getting the money, and at the same time a portion of the royalty interests are changing hands. Some of the landowners are playing a sure game by disposing of a portion of their royalty interests. They point out that the drill does not always find oil and that by selling a part of their interest they are sure to get something even if oil is not found. Royalty interests in that area sell for as much as the land would bring at a forced sale.

Eastern Division

Only one completion is reported from the eastern Kentucky division, a gasser found by the Petroleum Exploration Co., on the Crawford heirs farm, on Crane Creek, in Clay County, and not far from the well completed a few weeks ago by C. R. Dulin near Burning Springs, same county. The Petroleum Exploration Co. holds a large acreage in Clay and adjoining counties and reports are that a drilling campaign for gas will be inaugurated, now that its gas line to Lexington has been completed from the Owsley County Field, and supposedly will connect up with the Clay County Field, which lies just south of Owsley County.

The Trico News says: "With the completion of the gas line in Kentucky this month, it became necessary to arrange for a suitable organization to take charge of the work of looking after the gas department and as a result, a general rearrangement of the Petroleum Exploration Co.'s force at Lecco, Ky., has been effected. Assistant Superintendent P. E. Landrus was transferred to Lexington, Ky., to have direct charge of the gas department under Superintendent A. H. Wagner and J. T. Yantis, office manager at Lecco, was likewise moved to the Lexington office to handle the gas charts and other work connected with the gas division."

Western Kentucky

The western division of Kentucky is getting some interesting plays in oil, and while weather conditions are not favorable for drilling operations, they do not hold the leaser indoors as the possibilities look too good to let anything get away from them. Not since the early excitement of the famous Lee County Field in the eastern division have the natives of Kentucky seen anything like it, although Bowling Green and Scottsville experienced booms in their day. Ohio County is taking the lead. Territory now mostly sought after lies along the western line of that county, the southern and eastern lines of Daviess County and the north and eastern lines of McLean County.

An interesting well has reached the pay sand and reported showing for possibly 25 bbls. initial, but its real value is not as yet known. That is a test being drilled by the Globe Oil & Gas Co., Dr. C. L. Young and Dr. M. G. Buckner on the Vincent J. Steele farm, known as the "Chicken Farm" near Buford, in Ohio County. It is about 4 miles south of the Daviess County line and several miles almost directly west from the rich Ambrose Pool, and about midway between the Ambrose Pool and the good well found on the Jolly farm. Steele bought this 112 acres from Joe S. Phelon about a year ago, after the former owner had spent considerable money in improvements for conducting a poultry farm on a large scale. This well, if it lives up to its showing, indicates a wide extension of the oil deposits throughout that territory. The oil was found in the Barlow sand on the Steele well at 1,100 feet.

Lease buying activities were strengthened greatly by the showing in the Steele and Jolly wells, keen bidding being evidenced about headquarters in the Rudd House lobby at Owensboro. One of the largest deals of the past few days was the reported urchase of W. H. Fitzgerald, vice president of the Petroleum Extraction Co., by the purchase of a one-half royalty of the oil on the Joe H. Widgeway farm near Livia, in Daviess County. The reported price was said to be more than $5,000.

Another interesting development was that made by Marvin Jordan and others on the Gilbert Jolly farm, in Ohio County and about 2 miles south of the Daviess County line. It upset all dope, being reported at around 50 bbls., but when put on the pump produced 100 bbls. in 18 hours. Preparations for extending the pipe line to the Jolly well is said to be a certainty as several additional wells are to be started in that area. The pipe line will then continue on through to the Hayden farm well in Daviess County, a distance of 3½ miles northward, and should the drilling now pushing forward near the Dimmick well show up to advantage, it will be extended to that section as well.

Batten & Jamieson have assigned a one-half interest in the lease on the T. J. Riddle 105 acres, one-half mile north of the Hayden well, for the drilling of two wells on the property, the first well to be started in 40 days. This will determine the value of much of the territory surrounding the Hayden well.

Ohio County

The bringing in of a duster by local operators on the G. E. Barr 118 acres, a short distance northeast of the good well on the Gilbert Jolly lease, is only characteristic of the Kentucky territory and does not mean much. A second venture will be made on the lease, as the owners have great faith in the oil possibilities on the lease. A move of a few hundred feet from a dry hole in Kentucky often means good results. Take the case of James C. Ellis, a local oil operator who opened the famous J. R. Weller farm with nothing but good big producers and then drilled a dry hole on the Rousseau Weller 250-acre strip near Mount Moriah Church and southeast of the Ambrose Pool. Being game, he gave the big acreage another try by moving his outfit a short distance away and now he has a well that makes a reported showing for 100 bbls.

The Sunnydale Field is one of the active spots in Ohio County with more real activity than is displayed in the rich Ambrose Pool. In the Sunnydale area, the Wood Oil Co.'s No. 1 on the R. A. Duke 200 acres is a 100-bbl. initial producer as is its No. 2 on the J. C. Ralph 21 acres, same field. The White Plains Oil & Gas Co. got a dry hole at a test on the Everett Maiden lease, at a depth of 800 feet. Miller and Damron drilled a dry hole on the Sherman Smith lease, same field, at 500 feet. Fred Estes and others' No. 3 on the Mark Renfrew lease is said to be good for 35 bbls. initial. Daly & Lowman got a dry hole in the same field on the Baker Brothers lease. Wood Oil Co. is drilling No. 3 J. C. Ralph 21 acres and No. 2 on the R. A. Duke 200 acres, same field. This company is also drilling a test on the Wright farm, just north of Rough River. White Plains Oil & Gas Co. is drilling a test on the John Dodson 200 acres, and Earl Potter is nearing sand at a second test on the Mark Renfrew lease.

In the Ambrose Pool the Creek Drilling Co. set a string of 725 feet of casing, found sand from 735 to 785 feet and went to a total depth of 790 feet at No. 2 on the Bartlett 81 acres, and shot with 190 quarts, the well producing the first

(Continued on Page 120)

RAIN, SNOW AND FLOODED RIVERS HALT WORK IN THE CENTRAL WEST

By Whit
Staff Correspondent, Central West

FINDLAY, Ohio, Dec. 12.—The week proved of little interest in the Central West Field, owing to the change in weather conditions. First came a 24-hour steady rain, followed by a continuous snow of about 18 hours, bringing high waters throughout the entire region. While low lands were under water, a freeze came in the nick of time, preventing heavy damage. A large portion of the old Lima Field is under water and it will take weeks to clear away debris. The latter end of the week the streams around Lima, St. Marys, Van Wert, Paulding, Findlay, Bowling Green and other areas were so high that nothing could be accomplished. Operators are taking things easy, but after the holidays it is expected operating conditions will improve, with possibly a slight advance in crude prices.

Lima Field

In the old Lima Field of northwestern Ohio, only three wells were reported and they were practically finished before the heavy storms. In the Colt Pool, in Perrysburg Township, Wood County, George Hoffman and others' test, 410 feet from the north line and 190 feet from the west line of the Henry Hitchcock farm, in the southeast quarter of Section 14, set a string of 455 feet of casing, got top of Trenton sand at 1,274 feet and drilled 75 feet in. There salt water was encountered, making the small showing of oil of little value, and the well goes as a dry hole. W. F. Johnson is drilling No. 4 on the George F. Snyder, Section 33, in Webster Township, same county. John Geldin and others' second test in the northeast corner of the Michael Roller, on the oil map as the H. B. Shoemaker, Section 22, topped the sand at 1,222 feet and drilled 31 feet in, getting a 1-bbl. pumper. In Plain Township, same county, the Ohio Oil Co. abandoned Nos. 9 and 10 on the Brown Brothers farm, a short distance northwest from Bowling Green.

In Spencer Township, Allen County, the Gwinn Oil & Gas Co.'s No. 8 well, 250 feet from the north line and 660 feet from the east line of the John A. Beerman, in the southwest quarter of Section 23, pumped 10 bbls. initial production from a total depth of 1,246 feet. Top of sand was found at 1,196 feet and drilled 50 feet in the sand.

Michigan

No completions are reported from the Saginaw Field in Saginaw County, Michigan, nor any of the outside development. Wickes Brothers are due to reach pay sand soon in their No. 4 on the Wickes property, on the east side of the Saginaw River, near Water and Carroll Streets in Saginaw. The Sun Oil Co. is also due in with No. 4 on the Kuck farm, Section 10, Saginaw Township, which was drilling to the lower Saginaw sand.

Weather conditions throughout Michigan are unfavorable for operations on account of heavy snows and inability to move material.

There is some talk of the Wert Oil Co. drilling a third test on the A. D. Vought farm, 3 miles south of Decatur, in Van Buren County, in the southwestern part of the State and northwest of South Bend, Ind. No. 1 on this farm was called a 5-bbl. initial producer at 977 feet and the second venture a dry hole at around 1,107 feet. The supposition is that com-

(Continued on Page 108)

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Peerless dies have the curved eccentric relief. This makes the die clear the pipe while cutting. At the same time it follows the cut so closely that there is little danger of a chattered thread. This type of die requires only about one-half as much power as any other because of the absence of friction. For rapid, low cost pipe threading B & K machines have established their superiority in over fifty years of service.

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"The way out does not lie through further restraints, but through more freedom to the industry. Freedom to protect itself and to protect the public. This freedom the industry cannot secure through any efforts of its own.

"The Federal Oil Conservation Board, I think, should take the lead in saying to Congress and to the Legislatures that the antitrust laws must be so amended at once

as to permit the oil industry, through agreements, to restrict production of oil, and that this is essential in the interests of the public."

Extract from a paper addressed by Mr. F. C. Proctor to Mr. E. W. Clark, President, American Petroleum Institute, and appearing in the October 20, 1927 issue of The Oil and Gas Journal

Universal Oil Products Company
Owners of the Dubbs Process
310 South Michigan Ave
Chicago, Illinois

Not One Good Producer in the East

Even Southeast Ohio Fails to Complete Better Than Average. West Virginia and Southwest Pennsylvania Slow

By D. S. Wakenight
Staff Correspondent, Eastern Fields

PITTSBURGH, Pa., Dec. 12.—A review of the eastern fields fails to reveal the completion of a good producer in any section. The previous week the deep sand territory in southeast Ohio had several and West Virginia one.

On Little Sandy Creek, Big Sandy district, Kanawha County, West Virginia, the United Fuel Gas Co. has a gasser in the Big Injun sand at a test on the James T. Snyder farm. Operations in Boone County have fallen off with but four wells drilling, two by the Pure Oil Co. and two by the Owens Bottle & Machine Co. In McComas district, Cabell County, the Pittsburgh & West Virginia Gas Co.'s test on the Andrew Alberts farm is a gasser in the Brown shale good for 250,000 feet. In the same district, the West Virginia Gas Corp. has started to drill a test on the Irvin Morrison farm and the rig is completed for a test on the C. W. Simpson farm. Operations in Cabell County have been increasing for some weeks. It now has more wells drilling than Boone and Putnam Counties combined. Roane and Calhoun Counties show a considerable increase in development work. Calhoun is perhaps the most active county in West Virginia.

In Henry district, Clay County, West Virginia, the Ohio Fuel Oil Co. has completed in the Big Injun sand No. 5 on the James Reed & Co.'s 62 acres good for 20 bbls. a day. The location is 550 feet south of No. 4 on the same farm.

Calhoun County

On Big Run, Sherman district, Calhoun County, W. S. Dailey & Son have a light gasser in the Big Injun sand at a test on the Dice Robinson farm. On Laurel Creek, same district and county, W. H. Bickel had the same luck at his test on the M. H. Knight farm. On Crummies Creek, same district, the Hope Construction & Refining Co. has a gasser good for 500,000 feet in the Big Injun sand at a test on the Parsons Bennett farm. This well was formerly an oil producer in the Maxon sand and drilled down. In Center district, Gilmer County, the same company has the rig completed for a second test on the Monnie Ayers farm. On Dry Ridge, Grant district, Ritchie County, the Astron Oil Co. is moving a drilling machine to the location for No. 8 on the Herman Stursburg Realty Co.'s property. Operations have for some time been increasing in Calhoun County.

In Geary district, Roane County, the United Carbon Co. has drilled a test on the J. E. Keene farm through the Big Injun sand and dry in the Big Injun sand, but is a gasser in the Big Lime good for 200,000 feet of gas. On McFarlan Creek, Murphy district, Ritchie County, the Hope Construction & Refining Co. has drilled a second test on the Noah & Gay Jordan farm through the Big Injun sand, good for 4 bbls. a day. The same company is drilling No. 4 on the same farm.

Clay County

In Union district, Clay County, D. H. Stephenson and others have completed a test on the Otto Bowman farm. Nothing was found in the Big Injun sand, but a gasser good for 680,000 feet in the Big Lime formation. In Geary district, Roane County, Cromwell & Osborne have a gasser in the Big Injun sand at a test on the S. R. Tawney farm.

In Grant district, Pleasants County, Keith Thompson's test on the James Adams farm is showing a little oil in the Big Injun sand. In Jefferson district, Lincoln County, J. T. Ray & Son's second test on the James Cooper farm is a gasser good for 250,000 feet in the Berea grit. In Curry district, Putnam County, Wysong & Jaynes have a light gasser in the same formation at a second test on the Roberts-Vanderlinde farm.

Ritchie County

On McFarlan Creek, Murphy district, Ritchie County, Cochrane & Hays have completed No. 3 on the McGregor heirs' farm good for 15 bbls. a day in the Maxon sand. In Union district, Lincoln County, G. T. Ray & Son has a gasser in the Berea grit at a test on the Mathias Stowers farm. In Union district, Tyler County, the American Oil Co.'s test on the D. G. Smith farm is a gasser in the Big Injun sand. In McClellan district, Doddridge County, the Manufacturers Light & Heat Co.'s test on the M. F. and A. Farr farm is a gasser in the Gordon sand. In Liberty district, Marshall County, the same company's No. 3 on the John E. McCleary farm is a gasser in the Gordon sand. In the same district, the same company's second test on the Hicks-Pipes farm is dry in the Gordon sand.

In DeKalb district, Gilmer County, the Hope Natural Gas Co.'s test on the Parsons-Bennett farm is a gasser in the Big Injun sand. In Center district, the Steer Creek Oil Co. has a gasser in the same formation at a test on the C. D. Mollohon farm.

In Birch district, Braxton County, the Pittsburgh & West Virginia Gas Co. has a gasser in the Gordon sand at a test on the C. R. Bourne farm. In the same district, the same company's test on the C. Bourne farm is a gasser in the Big Injun sand.

Shooting Helps

At the moment the Chartiers Oil Co.'s No. 5 on the J. S. Stump farm, in Center district, Gilmer County, West Virginia, is the largest producer. It was drilled deeper and given a shot and responded with a production of 140 bbls. the ensuing 24 hours. On Yellow Creek, Center district, Calhoun County, Park Bowser completed in the Berea grit his test on the G. Richards farm. It is a very light pumper. This was formerly a gasser, drilled down from the Big Injun sand to the Berea grit.

In Sheridan district, Calhoun County, Martin Crowley completed his test on the Cooper Brothers' farm, good for 6 bbls. a day in the Big Injun sand. In Battelle district, Monongalia County, the Manufacturers Light & Heat Co. has a gasser in the Bayard sand at a test on the Laura B. Tennant farm. In McClellan district, Doddridge County, J. B. Pentz has a gasser in the Gordon sand at a second test on the William Underwood farm.

Gilmer County

In DeKalb district, Gilmer County, Satterfield & Co.'s test on the Frank Davis farm is a gasser in the Big Injun sand. In Glenville district, the Pittsburgh & West Virginia Gas Co. has shut down to test for oil in the Big Injun sand. In Center district, the Chartiers Oil Co. has a rig completed on the Daniel Huffman farm, located on Steer Creek.

On Indian Creek, Murphy district, Ritchie County, Park Bowser's second test on the J. Grim farm is a fair gasser in the Maxon sand. On McFarlan Creek, same district, the South Penn Oil Co.'s test on the B. Burke farm is dry in the Berea grit, but will be put to pumping from the salt sand. On the South Fork of Hughes River, C. S. Morris and others have the rig completed for a test on the J. B. Warner farm, located 1½ miles northeast of Smithville. In Murphy district, Ritchie County, J. F. Deem & Co.'s No. 3 on the Joseph Tingler farm, drilled deeper into the Big Injun sand is a 4-bbl. pumper.

Wood County

In Walker district, Wood County, L. F. Bickel & Co.'s test on the G. Goetz farm is a duster in the Berea grit. In Union district, Sweeney and others have made the location for a test on the J. W. Ealston farm. In the same district, Rothwell & Co. are rigging up on the John Freshwater farm.

In Henry district, Clay County, the South Penn Oil Co. has completed in the Big Injun sand No. 65 O. D. Stockly estimated to be good for 15 bbls. a day. The location is 550 feet east of No. 60 on the same farm.

Deep Gasser

In Hackers Creek district, Lewis County, the Cumberland & Allegheny Gas Co.'s test on the Rinehart farm has been drilled into the Benson sand. At a depth of 4,330 feet, the well is good for 1,000,000 feet. In Courthouse district, the Mid Penn Oil Co. has the rig completed for a test on the Rinehart estate. In Hackers Creek district, the Cumberland & Allegheny Gas Co. has the rig completed to drill deeper No. 3 Straley. In the same district, the Clarksburg Mortgage & Loan Co. has the rig completed for a test on the George Jackson farm.

Kanawha County

On Fallen Rock Creek, Big Sandy district, Kanawha County, the United Fuel Gas Co. has started to drill a test on the L. D. Updegraff farm. On Blue Creek, Elk district, the Means Gas Co. has the rig completed and started to drill on the G. W. Wittaker farm. This location is 3,000 feet southwest of the South Penn Oil Co.'s No. 52 on the Blue Creek tract.

On Breeden Creek of Twelve Pole Creek, Harvey district, Mingo County, the Public Gas Corp. is drilling No. 26 on the Logan Cannel Coal Co.'s property.

On Leather Bark Creek, Murphy district, Ritchie County, Deem Brothers & Co. have drilled No. 3 on the Smith Brothers' farm through the salt sand and dry. It will be drilled through the lower sands. The location is 600 feet south of the Rymer Oil Co.'s test on the J. M. Rymer farm.

Starting New Work

In DeKalb district, Gilmer County, the Hope Natural Gas Co. is building a rig on the Catherine Wilt farm. In Center district, same county, the Carnegie Natural Gas Co. is rigging up on the Lloyd Westfall farm. In Birch district, Braxton County, the Pittsburgh & West Virginia Gas Co. has started to drill on the Bennett Oil & Gas Co.'s lease. In the same district, the same company has shut down for orders at 2,468 feet on the C. R. Bourne farm. In Otter district, D. F. Pailey has part of the rig material at a location on the Henry Clowser farm. The same company is drilling at 1,350 feet on the D. S. and C. Engle farm.

In Collins Settlement district, Lewis County, the Mudlick Oil & Gas Co. is setting a packer to shut off the salt water on the E. G. Davisson farm. In Freemans Creek district, the Hope Natural Gas Co. is due in the sand on the J. C. Starcher farm. In Spring Creek district, Wirt County, the Dailey Oil Co. is due in the Big Injun sand on the A. G. Adair farm. In Murphy district, Ritchie County, the Hope Construction & Refining Co. has started to drill a second test on the Noah Jordan farm. In the same district, A. G. Roberts is drilling on the A. M. Tingler farm. In Manningtown district, Marion County, F. M. Bartlett is building a rig on the John Haddox farm.

In Spring Creek district, Wirt County, the Dailey Oil & Gas Co. has started to drill on the A. C. Adair farm. In Union district, Wood County, Rothwell & Co. are rigging up at a second test on the John Freshwater farm.

In Walton district, Roane County, the Clifton Oil & Gas Co. has started to drill on the G. A. Cummings farm. In the same district, the Buff Lick Oil & Gas Co. has started to drill on the Taylor heirs' farm. In Birch district, Braxton County, the Hope Natural Gas Co. is drilling at 1,600 feet on the C. C. Favis farm.

On Eli Fork of Cobbs Creek, Washington district, Lincoln County, the Harvard Gas Co. has started to drill on the Standard Fuel Gas Co.'s lease. On Laurel Fork of Horse Creek, Duval district, the United Fuel Gas Co. has started to drill another test on the Horse Creek Coal & Land Co.'s tract. On Cribb run, Center district, Gilmer County, the Chartiers Oil Co. has a rig up on the Daniel Huffman farm. On Leather Wood Creek, Big Sandy district, Kanawha County, the United Carbon Co. has started to drill on the Osborne farm.

In Union district, Tyler County, Smith Brothers are rigging up on the D. C. Smith farm. In Logan district, Logan County, the Peck Oil & Gas Co. has shut down to repair the rig on the Peck heirs' farm. In Hackers Creek district, Lewis County, the Standard Oil & Gas Co. is drilling at 4,295 feet on the Vada Rinehart farm. In Union district, Lincoln County, Roy & McComas are drilling on the Randolph Sias farm. In Washington district, the Harvard Gas Co. is fishing at a test on the J. H. Moore farm.

Southeast Ohio

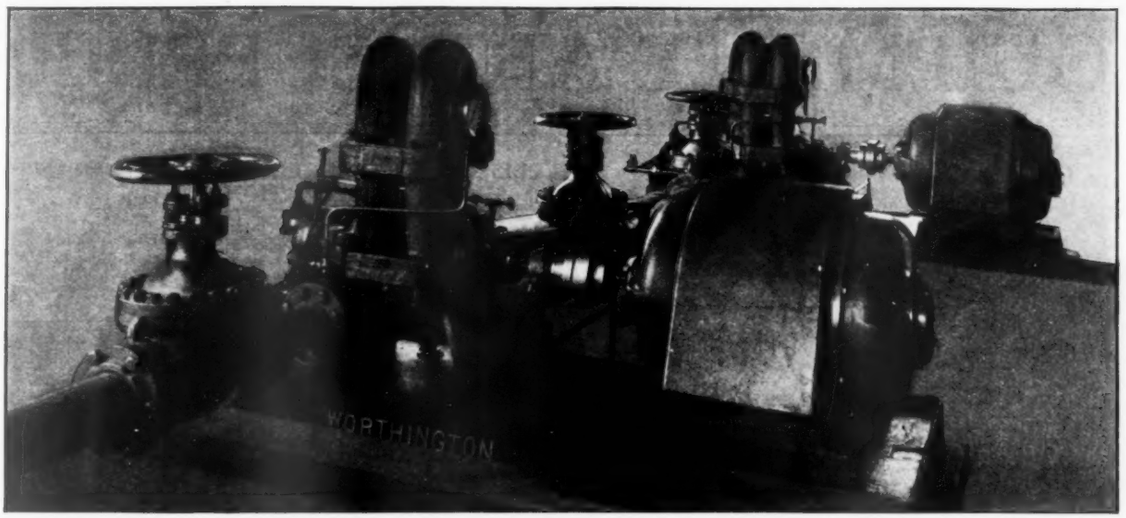
In Section 11, Franklin Township, Monroe County, Herman C. Bader has a 5-bbl. pumper at a test on the Mason N. Hugus farm. In Section 19, Summit Township, J. H. Walker & Co.'s No. 4 on the Phillip Nubeck farm is a duster. In Section 31, Coal Township, Perry County, the Roan Oil & Gas Co.'s test on the J. M. Roan farm is so light in the Clinton sand as to scarcely pay to operate it. In Salt Lick Township, Orendorf and others are drilling a test on the Mideast Brick & Clay Products Co.'s farm. In Section 9, Green Township, Hocking County, Columbus Ohio parties have completed in the Clinton sand a second test on the A. Ralston farm. It is a duster.

In the southwest quarter of Section 20, Westland Township, Guernsey County, the Leonard Oil & Gas Co. and others have completed in Niagara lime No. 5 on the James Joyce & Co.'s farm, good for 75 bbls. a day. In Section 14, Licking Township, Licking County, G. W. Zing and others have completed a test on the Charles Shull farm. It is a very light pumper in the Berea grit. In Section 7, same township, W. W. and A. T. Wehrle have a 2-bbl. pumper in the Berea grit at No. 12 on the Elmer Vance farm.

In Lot 2, Mary Ann Township, Licking County, Farmer & Rugg have completed No. 3 on the Edward Wright farm. It produced 8 bbls. the first 24 hours after shot in the Berea grit. In the northeast quarter of Section 32, Strongsville Township, Cuyahoga County, Dillon & McFredericks have a duster in the Clinton sand at a test on the Methis Gobel farm.

On the Ohio River, Lot 25, Newport Township, Washington County, O. S. Reckard & Co.'s test on the G. O. Parsons farm is a light pumper in the Keener sand. On Sheets run, Section 29, Grandview Township, the Hill Top Oil & Gas Co.'s second test on the G. F. Oliver farm is good for 2 bbls. a day in the Big Injun sand.

(Continued on Page 120)



Two of three Worthington Centrifugal Pipe Line Pumps at the Westbury booster station of the Magnolia Pipe Line Company. Each pump has a capacity of 24,000 bbl. per day against a pressure of 350 lb. per sq. in. They are arranged so that two of the pumps may be operated in series, with the third unit as a reserve. When the initial station at Hull is operating at full capacity, two pumps in series at Westbury boost the pressure from 350 lb. per sq. in. to 720 lb. per sq. in. The pumps are driven by induction motors connected to pressure regulator controllers (shown at the right) so arranged as to cut in automatically one pump or two pumps in series according to requirements.

16 more Worthington Centrifugals
for Magnolia Pipe Line Company

IN December, 1926, three motor-driven, Worthington Centrifugal Pipe Line Pumps were placed in service at the Westbury, Texas, booster station of the Magnolia Pipe Line Company's Hull-to-Beaumont Line.

Magnolia engineers were so pleased with the performance of these pumps that 16 more Worthington Centrifugals have been installed and are now in regular operation.

These motor-driven centrifugal pumps occupy minimum space, can be housed in small inexpensive buildings and can be readily transported to another locality if necessary.

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When used for booster service, storage or receiving tanks are not required, as the pumps are cut directly into the line. Another money-saving advantage is the automatic control of the pump motors by means of pressure regulators, thus reducing attendance required to a minimum.

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EQUIPMENT AND SUPPLIES

Welded Steam Coils In Shipping Heavy Crude in Pipe Lines

Recently a new field located about 40 miles from the main camp was brought in. When the oil was analyzed, it was found to be of such low gravity that it would have to be heated before it could be pumped through the lines to the main gathering lines. Hurried installation of a heating system might have been a serious problem had not the engineers been familiar with the possibilities of the oxy-acetylene process, says a writer in Oxy-Acetylene Tips.

A large earthen reservoir was dug out and banked, during which orders were sent in for pipe, oxygen and acetylene generator. The generator was mounted on a motor truck so that all the necessary equipment could be moved from place to place quickly.

As shown in Figures 1 and 2, three large steam coils were fabricated from the pipe with welded joints throughout.

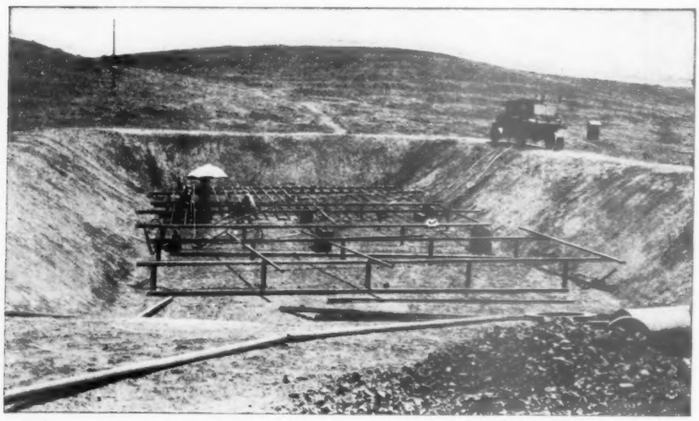


Figure 1—Steam coil and reservoir.

Figure 2—Close-up of fabricating work.

Pipe stands were first constructed to hold the steam coils about 2 feet from the ground when in use. These stands also came in very handy during the welding of the pipes to the headers. The ends of the pipe were cut to shape by a cutting blowpipe, ready to weld into the headers. Holes were cut in the headers where the coil fitted in. After blocking the headers in position, the coils were moved into position one by one, and the joints welded into permanent tightness.

After all three coils had been completed, steam mains were put in and connections welded to each header. Return mains were welded to the opposite sides, and the remaining open ends of the headers were closed by welding.

By careful leveling of each coil, it was possible to place it so that the condensed steam would run down into one corner, either to be removed from a sump or to pass into a return line with the exhaust steam, thence to a condenser or a separator, and back to the boiler.

The welded heater was completed in a very short time, and the now fluid crude was soon on its way to the refinery, warmed by heat from the steam passing through the coils.

Engineering facts and data are contained in an article on Isolantite and Tower Packings issued by the Isolantite Co. of America, Bellville, N. J. Isolantite rings, said to combine properties of a metal and a ceramic, are described as the latest development in chemical tower packings.

ELLIS VOLUME BARREL SIMPLE OF OPERATION

The Ellis volume barrel, manufactured by the Ellis Manufacturing Co., Kansas City, Kans., is a working barrel of substantially greater diameter than the tubing and provides a means whereby the volume of a 3-inch or 4-inch working barrel may be delivered through tubing of a much smaller diameter. The barrel is connected with the tubing by means of a swedge nipple.

This volume barrel is equipped with a standing valve, traveling valve and a 22-inch cast iron plunger. The plunger is equipped with eight piston rings, which eliminate the possibility of fluid leaking by the piston. Attached to the upper crown is a clutch bowl. These parts are assembled in the barrel.

In installing the Ellis volume barrel, the bowl is attached to the tubing and the barrel let down into the well with the tubing. When the barrel is placed in position, a sucker rod with clutch attached is let down through the tubing into the clutch bowl. When the clutch encounters the clutch bowl, the rods are given a half turn to the right and the clutch becomes secure. The pump may then be operated in the usual manner. Should the rods break or become parted, they may be removed by a common fishing tool.

ALBERT BROWN RETIRES

Albert Brown, after a service of over 30 years with the Oil Well Supply Co. and its subsidiary, the Oil Well Supply Co. of California, will retire from the positions of vice president and general manager of the latter company. Mr. Brown will continue with the company as a director and act in an advisory capacity.

AWARDED HUGHES MEDAL

Dr. W. D. Coolidge, assistant director of the research laboratory of the General Electric Co., has been awarded the Hughes medal by the Royal Society for "distinguished work on X-rays and the development of highly efficient apparatus for their production."

SOUTHWESTERN SALES MANAGER

George A. Hays, Jr., has been appointed sales manager of the southwestern division for the Wilson-Snyder Manufacturing Co., builders of heavy duty pumps for all branches of the oil industry. He was formerly Chicago district manager and recently assistant sales manager at the company's headquarters in Pittsburgh, Pa. Mr. Hays is a graduate of Pennsylvania State College, mechanical engineering department. Mr. Hays' five years experience with Wilson-Snyder has made him familiar with the application of pumps for hot oil pipe line, cargo, transfer and slush service. His headquarters will be in Houston, Tex.

George A. Hayes, Jr.

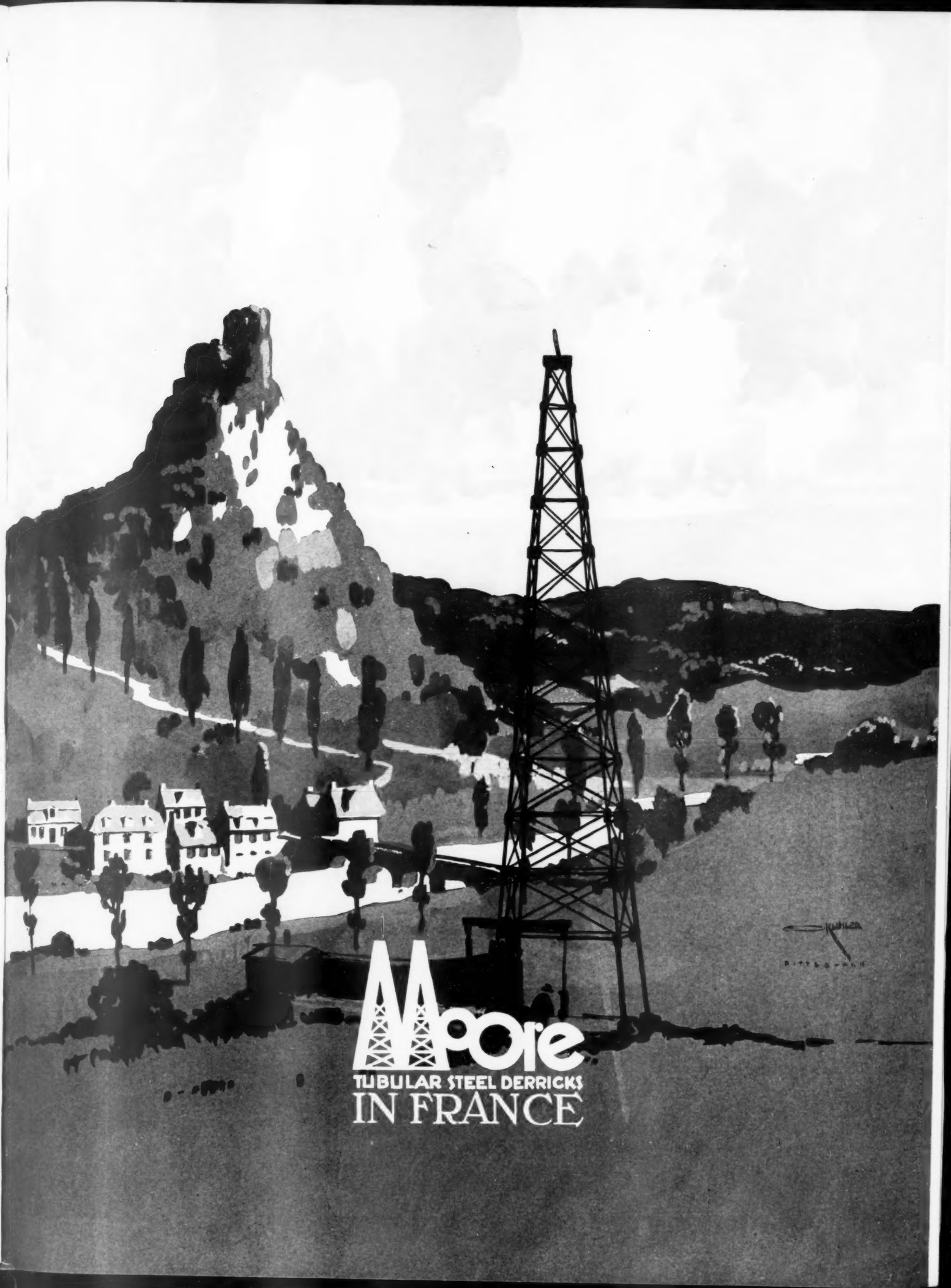
Simplified stamping of wrenches in accordance with the new American Standard of bolt and nut sizes is announced by J. H. Williams & Co., along with a table of standard bolt, nut and cap screw sizes served by each opening size of the wrench.

EQUIPMENT COMPANY COMPLETES IMPORTANT EXPANSION PROGRAM

Consummating what is said to have been the most extensive program of expansion in the history of pump manufacturing, the Axelson Machine Co. in the past 10 months has invested $250,000 in the enlargement of its St. Louis and Los Angeles plants. Equipment still required to complete this quarter-million dollar improvement will have been installed within 60 days.

This expansion of facilities does not involve a reorganization of manufacturing methods but makes possible more thorough systematization and many betterments in the production of pumps and sucker rods, according to Jule C. Axelson, president and general manager. To effect these developments, equipment of entirely new and exclusive design has been manufactured and its installation is being completed. All of the new machinery is for the production of pumps and sucker rods, as the manufacturers do not

(Continued on Page 119)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TUBULAR STEEL DERRICKS
IN FRANCE

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Where some of the first wells in the world were put down, Moore Tubular Steel Derricks are helping to keep the field productive. Although the first crude implements served to open the earth's rich storehouse, France now demands and uses the most modern equipment.

Here, as in all other oil lands, the economy and complete dependability of Moore derricks have won for them an undeniable prestige.

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Field Problems and Their Solution

EDITED BY THOMAS F. SMILEY

In order that men connected with the drilling, producing and transporting branches of the petroleum industry may procure quickly a solution of many problems confronting them from time to time in their work, The Oil and Gas Journal has arranged with leading engineers and other recognized authorities to answer questions submitted by readers of this publication pertaining to the work of drilling and producing crude oil and transporting this product.

Everyone is invited to submit questions freely. These questions will be submitted to proper authorities by Mr. Smiley, who edits the page, and answers, based on the best available information, will be published. Each question should give as much detail as possible, especially where it relates to matters where depths of sands, types of sands and operations on adjoining properties would have a bearing on the problem involved. The source of all questions will be considered as confidential and only initials will be published in connection with the question.

In case an immediate answer is important, one will be given by mail if the writer requests it.

In this connection, The Oil and Gas Journal will be glad to publish articles from field men who have devised new methods or practices which are improvements.

DISCUSSION STIRS COMMENT

Discussion in this department of the corrosive action of oil of high sulphur content produced in the West Texas Fields has brought interesting letters. Some of the writers ask for more information on this extremely important subject. Others express disagreement with statements made in the discussion which has appeared on this page. All such communications—whether they ask questions, offer fuller information or submit dissenting views—are welcome and will receive attention. Two of the letters prompted by the discussion of corrosion are appended. One, from a petroleum engineer of high standing, expresses disagreement with a statement made. The other, from a man familiar with the uses of creosoted wood, suggests trial of creosoted pine for the roof supports in tanks containing oil contaminated with hydrogen sulphide. In connection with this latter communication attention is directed to the question asked this week by T. C. C. and the answer thereto. Inquiry has failed to disclose any oil company which thus far has experimented with creosoted pine supports for tank roofs. If any readers know of such experiments they are urged to tell what the results have been.—EDITOR.

In the December 1 issue of your paper we find the following statement in your department under the heading "Cause of Corrosion":

"It is found that the sides of the tank, unlike the top and bottom, are not damaged by corrosion, even when the tank contains oil of high sulphur content. This is attributed to the fact that the sides are wet with oil all the time."

This statement is not borne out by actual field observations for examination of field storage tanks in many fields in limestone areas shows that the sides are first to be destroyed by corrosion. End products deposited on the sides of tanks at the point of failure show as high as 60 per cent iron sulphide scale.

If the statement quoted above is true this type of failure would not be possible for the tank is first wetted with oil when the steel is new and bottom, sides and deck are free of corrosion products.

If wetting the tank sides constantly retarded corrosion this is the normal condition of all tanks, and the wetting of the under side of the deck is unnecessary.

At this time in Borger area of the Texas Panhandle it is safe to estimate that 50 per cent of the steel tank storage is failing or has failed due to hydrogen sulphide corrosion and field observations show that the worst zone of corrosion is practically at the pipe line level.

There are numerous other reasons to be considered in studying this problem and they are too numerous to be cited here, but it is safe to say that there is no simple method of effectively retarding corrosion in pipes, tanks and other equipment handling oils produced with over 5 per cent hydrogen sulphide.—L.G.E.B.

We note with very much interest your articles entitled—"Cause of Corrosion" and "Hydrogen Sulphur." Do you know if any of the petroleum companies have tried creosoted southern pine for the roof supports for tanks (these supports are used inside). This, of course, would be used in crude oil storage tanks and not in refined oil. Creosoted pine is highly resistant to the action of hydrogen sulphide in oil and we are recommending its use as roof supports since we have learned that this gas corrodes the steel supports so badly that they have to be replaced quite often, thereby causing a great deal of expense. We would be glad to have all the information you can get on this subject.—F. P. K.

MERITS OF CREOSOTED WOOD

Can you tell us the cause of so many tank roof supports in large storage tanks going to the bad on account of rust? Would not creosoted wood resist the action of hydrogen sulphide gas, if this is what is causing this trouble? Is there any reason why wood could not be used as successfully as steel and save this replacement?—T. C. C.

The fact that tank roof supports deteriorate may be attributed to several causes. The upright members and other sections immersed in the oil are often corroded by the action of corrosive water present in the tank. Portions of the roof support above the oil are corroded by the action of hydrogen sulphide gas. Wooden supports formerly were used in storage tanks, but they have been replaced by steel. Dry rot and fungus growth on the wood necessitated replacements. The use of structural steel, because of the smaller volume as compared with that of wood, increased the amount of space available for oil storage. Creosoting the wood protects it from dry rot and fungus growth, but it is questioned whether its use, even when so treated, offers advantages that could offset those possessed by structural steel.

PRODUCTION AFTER SHUTTING IN

When the production in a field is shut in for some time, for example one year, will the wells produce as much after the shut-in as they did before?—H. B. H.

Investigations have shown that the shutting in of production of an entire field and often of only portions of a field when the shut-in part is favorably located structurally, does not result in a lowered production after the wells are again produced. In some cases an increase in production took place. Of course such practices as producing the casinghead gas during the period of shut-in should not be resorted to as the removal of gas would almost certainly tend to result in a lowered production. It is now generally recognized that the gas in the sand should be conserved in order to obtain maximum recovery.

GRAVITY FORMULAS

Is there any formula that can be used to determine in what proportions two oils of different gravities should be mixed to obtain a certain gravity? Also what will be the gravity of a mixture of two known volumes of oil of different gravities?

The following formula can be used to determine the gravity of a mixture or the proportions necessary to obtain a certain gravity:

FORMULA NO. 1

$$D = \frac{md_1 + nd_2}{m + n}$$

where D = density of mixture (sp. gr.)
m = proportion of oil of d_1 density
n = proportion of oil of d_2 density
d_1 = density (sp. gr.) of m oil
d_2 = density (sp. gr.) of n oil

Example: What will be the resulting gravity of a mixture of 400 bbls. of 36-degree A.P.I. gravity oil, 150 bbls. of 30-degree A.P.I. gravity oil?

It is necessary first to convert the A.P.I. degrees gravity into the density or specific gravity by the following formula:

FORMULA NO. 2

$$\text{Specific gravity} = \frac{141.5}{131.5 + (\text{degrees A.P.I.})}$$

Therefore,
The specific gravity of the m oil is

$$d_1 = 36^\circ \text{ A.P.I} = \frac{141.5}{131.5+36} = 0.845$$

and of the n oil is

$d_2 = 30^\circ$ A.P.I. $= 0.876$ approximately

The total volume of the mixture will be 550 barrels.
Let m equal proportion of 36° oil or 400 bbls.,
and n equal proportion of 30° oil or 150 bbls.,

$$\text{then m} = \frac{400}{550} = 0.727$$

$$n = \frac{150}{550} = 0.273$$

$$D = \frac{(0.727 \times 0.845) + (0.273 \times 0.876)}{0.73 + 0.27} = \frac{0.616 + 0.236}{1} = 0.852 \text{ sp. gravity}$$

The specific gravity of the mixture of the two oils would be 0.852.

Formula No. 2 can be converted to read by transposing the specific gravity and A. P. I. degrees.

FORMULA NO. 3

(Gravity in A.P.I. degrees.)

$$= \frac{141.5}{\text{sp. gr.}} \text{ minus } 131.5$$

$$= \frac{141.5}{0.852} \text{ minus } 131.5$$

$$= 35.6^\circ \text{ A.P.I.}$$

Formula No. 1 can be converted into a form for determining the proportion of the different oils to obtain a certain gravity of the mixture.

SUBMERGENCE IN GAS LIFT

What is meant by the submergence in a gas lift? In talking to one of our engineers I was told that there is no submergence in a gas lift, yet I noticed in a number of articles on the gas lift that submergence is mentioned.—F. A. S.

The term "submergence" as it is now used, refers to the distance between the bottom of the tubing in the well and the top of the static fluid level, or the height to which the fluid will rise in a well when the gas lift is not operating. Some engineers contend that there is no such thing as submergence in a gas-lift well because the fluid between the tubing and casing (if the well is being flowed through the tubing) or in the tubing (if the oil and gas are produced through the annular space between the tubing and casing) has been lowered to the bottom of the tubing. In a physical sense there is no submergence. However, the effect is the same whether the oil is present or whether its level has been depressed, the pressure required to depress it being equivalent to the static fluid head of the oil above the bottom of the tubing. As the distance at which the bottom of the tubing is placed below the top of the static fluid head is of primary importance in gas-lift operation it is believed that the term submergence should be used until a better term has been evolved, always remembering that it applies to either the actual physical submergence or to its equivalent.

CAPACITY IN BARRELS

Is there any easy way to calculate the capacity of casing or an oil line in barrels?—R. P. D.

There is a simple method for determining the capacity of the pipe. It is as follows: Square the inside diameter of the pipe and the figure obtained represents the capacity in barrels of 1,000 feet of that diameter pipe. For example, assume a pipe having 4-inch inside diameter. The capacity of 1,000 feet of the pipe is equal to the square of 4 or 16 bbls. This method of calculating pipe capacity gives a figure approximately 3 per cent greater than the actual capacity.

USE OF PRESSURE BOMB

What instrument is used in getting a sample of oil from the bottom of a well?—A. R. C.

From your question it is taken that you want the sample for the purpose of determining the pressure and very likely the solubility of gas in the oil at that pressure. A pressure bomb is used for that purpose. It consists of a small high pressure cylinder equipped with a pressure regulator at the lower end and a quarter-inch of half-inch nipple and valve at the other end. The bomb is lowered into the well on a line and often additional weight is necessary to run it to bottom. The upper valve is of course closed before running the bomb in. After a sample has been taken and the bomb removed from the well, a pressure gauge may be screwed on and the pressure taken. To determine the amount of gas dissolved in the oil, the valve at the upper end is slightly opened and the free gas, if any is contained in the cylinder, is allowed to escape very slowly in order that no gas may be liberated from the oil. By releasing the pressure in the cylinder, the gas then is allowed to escape from the oil and the gas is measured.

Natural Gas Developments

PLEA FOR LOWER RATES MADE BY LOS ANGELES

LOS ANGELES, Calif., Dec. 10.—Charging that on an estimated fair valuation of its property devoted to public service, the Los Angeles Gas & Eelectric Corp. is earning in excess of 8 per cent. the rate of return usually allowed to public utilities in this State, City Attorney Stephens and President Bonnell of the city council filed a petition asking the State Railroad Commission to conduct an investigation and reduce rates for the domestic use of natural gas in Los Angeles. Calling attention to the probable large consumption of gas during the coming winter months, the application also requests that an interim reduction of 5 cents per 1,000 cubic feet be ordered immediately.

The application, which was prepared by the city attorney's office and the engineers of the Board of Public Utilities, holds that a fair value of the corporation's properties for the year ended October 31, last, is $55,844,439.

This amount represents the rate base established by the commission at the close of 1926, plus additions and betterments as shown by reports of the corporation and liberal estimates for materials, supplies and working capital, the petition states. By a similar method of computation it is estimated in the application that a fair valuation of the company's property at the close of the calendar year 1928, will be $59,227,108.

The revenue available to the gas company for a return on its investment for the year ended October 31, last, was $4,679,249, or in excess of 8 per cent on the value of its holdings devoted to public service, according to the application, which adds: "These figures include abnormally high operating expenses incidental to a change of system operation from mixed to natural gas, and for other reasons do not accurately reflect conditions as they will exist for the calendar year 1928."

The revenue available during 1928 on the rate base estimated by the city engineers as a fair valuation of the corporation's property for that period, will be $6,153,142, or 10.4 per cent, which exceeds a fair return of 8 per cent by approximately $1,500,000, according to the application.

The application charges that if the present rate fixed by the commission on December 31, 1926, is continued in effect during 1928 it will be excessively high, unjust, unreasonable and an unfair burden on the consumers.

The petition also sets forth that when the commission rendered its last decision it denied the petition of the corporation for increased rates on the distribution of mixed gas, but allowed an increase of 35 per cent if the distributors chose to serve natural gas only. This option was exercised. That adjustment of rates, according to Stephens, was based on the fact that natural gas has a greater heat content than mixed gas and it was thought that the bills of the consumers would not be increased by the higher rate because less volume would be used.

In the petition filed, the city attorney holds that the 35 per cent increase was too much. He states that the average heating value of the natural gas served by the Los Angeles Gas & Electric Corp. from February to October, last, is only 28.7 per cent higher than the heat value of the natural gas served here during 1926.

The petition was filed in the local state office and a copy was sent to San Francisco, where the full commission sitting in chambers Monday will take it under consideration.

GAS IN RIO GRANDE VALLEY

SAN ANTONIO, Tex., Dec. 10.—Rio Grande Valley Gas Co. has completed the last of its main line and distributing systems in the cities of the lower Rio Grande Valley, taking the gas from the Mirando Field and distributing it at Pharr, Mission, McAllen, San Benito, Mercedes, Brownsville and other places. All the cities of the valley are now using gas from the Mirando fields. Gas is furnished the line by the Southern Gas Co. of San Antonio.

MONTANA GAS RATES TO STATE COMMISSION

GREAT FALLS, Mont., Dec. 10.—Gas rates in Montana are the subject of a great deal of discussion at this time. As the result of a charge that the Great Northern Utilities Co.'s rates on gas in the city of Shelby were too high, the State Public Service Commission convened in Great Falls to hear both sides of the question. The evidence presented was conflicting, estimates of costs of producing and distributing gas varying greatly from the figures presented by the Great Northern Utilities Co. The Great Northern buys its gas from the Ohio Oil Co., which according to the distributing company has invested $35,000 in the two wells producing this gas. The Great Northern valued its equipment at $207,000, while representatives of the Citizens Gas Co., a local organization which proposed to distribute gas at a lower rate, asserted that a system could be installed for $20,000. The hearing was concluded but the commission has not given any decision.

At the same time, a conference is being arranged between representatives of the Great Falls Gas Co. and a committee of gas consumers in this city, at which the schedules recently published by the Great Falls Gas Co. will be considered. The schedule calls for a rate of 75 cents a thousand for the first 5,000 feet, and a minimum of $2. This is considered excessive by some of the consumers, while the company contends that it expects to take a loss the first year at that rate. There is a possibility that this will also be taken before the Public Service Commission.

MERCER COUNTY, PA., GAS SOLD TO UNION COMPANY

OIL CITY, Pa., Dec. 10.—The 16 producing gas wells of the Wolf Creek Oil & Gas Co., organized eight years ago by the late Dr. J. M. Martin of Grove City, with wells and leases located in Liberty Township, Mercer County, have been sold to the Union Heat & Light Co. of Grove City. The sale includes the leases and producing wells that will make over 100,000 feet a day despite the fact that rock pressure is greatly reduced.

The owner was Pressly T. Craig of Pittsburgh, to whom the property was sold by the Mercer Flooring Co. following purchase from the original owners. It is planned by the buyers to pipe the gas to Slippery Rock.

For years the Manufacturers Light & Heat Co. bought the flow of the Wolf Creek Field.

The Union Heat & Light, also owner of the recently purchased New Wilmington Gas Co., has just completed an operation that cost an estimated sum of $40,000 in laying nine miles of pipe line from New Wilmington to New Castle. This is to enable the New Wilmington company serving New Wilmington to pipe gas both from the field in Findley Township, and also from the lines serving New Castle.

USE SURPLUS GAS FOR ELECTRIC GENERATION

LOS ANGELES, Calif., Dec. 10.—Unless the city of Long Beach can find a market for millions of cubic feet of natural gas, which its municipally-operated gas system is now blowing into the air for the lack of a better place to put it, Long Beach will go deeper into the public utilities game by establishing an electric generating plant. Such a plant, City Manager Callahan pointed out, would use up all the surplus gas supply now being poured onto the city by gas-producing concerns because of contracts entered into last summer by a former city administration.

Possibilities of a plan for the construction of an electric generating plant, similar to those operated by the Southern California Edison Co. were discussed briefly by the city manager and W. H. Partridge, head of the municipal gas department.

It was pointed out at the city hall that the Edison company is now using about 500,000 feet of city gas per day for its Terminal Island steam turbine plant, while its usual consumption is close to 5,000,000 feet daily. A conference with Edison company officials with a view to determining whether or not more city gas can be used daily, is to be sought in the near future, it was said. The city is now paying the Edison company approximately $200,000 a year for electricity for street lighting and other purposes and this amount can be saved to the city if Long Beach were to operate its own lighting plant, the city manager said.

EXTENSION TO AUSTIN SOON TO BE AWARDED

SAN ANTONIO, Tex., Dec. 10.—Southern Gas Utilities has completed its main 8-inch gas line extension from San Antonio to New Braunfels and Seguin and the distributing systems in those cities are completed and being tested. Gas will be turned on by December 15 or before.

On the completion of this system it was announced at the office of the company here that contract will be let in a few days for a 21-inch extension to Austin, Tex., where gas will be furnished the Austin Gas Co. and distributing systems will be put in by the Southern Gas Utilities in San Marcos, Kyle, Buda and Monchacha, cities along the route from New Braunfels to Austin.

HALF LINE COMPLETED WASKOM TO HOUSTON

HOUSTON, Tex., Dec. 10.—Dixie Gulf Pipe Line Co. has completed 145 miles of the gas line it is laying from the Waskom gas field of northeastern Texas to Houston and Port Arthur, Tex. This is better than half of the total main lines of approximately 279 miles.

Five crews are working at various places along the right of way, one laying the 16-inch branch main line from near Livingston to Houston, another on the Livingston-Port Arthur 18-inch line and the remaining three on the 22-inch line from Livingston to Waskom.

The Dixie Gas & Fuel Co., the distributing subsidiary of the Dixie Gulf Pipe Line Co., is about completing its distribution system at Orange, one of the many cities of eastern Texas to be served by the project. Work also is progressing on the laying of lines at Jacksonville, Nacogdoches and Henderson.

Laying of the 145 miles of main line has taken less than two months. It originally had been intended to complete the project by January 1 but now all the work will not be finished possibly before early spring.

GAS OIL CONTRACT

RICHMOND, Va., Dec. 10.—Standard Oil Co. of New Jersey has been awarded contract for 4,000,000 gallons of water gas oil for the city of Richmond at 5¼ cents a gallon delivered. This is seven-eighths of a cent per gallon, or total of about $35,000, lower than the price for similar oil last year.

DEHYDRATE GAS USED AT SAN DIEGO, CALIF.

LOS ANGELES, Calif., Dec. 10.—San Diego Consolidated Gas & Electric Co. is installing a gas dehydration system, according to announcement by W. F. Raber, vice president and general manager.

Heretofore, only the gas supply to the suburbs has been dehydrated, but with the enlarged plant the entire output will be so treated.

In outlining the project and its benefits, Mr. Raber said it is expected to increase the life of the company's distributing system; reduce to a minimum the cost of maintenance, and eliminate necessity of frequently tearing up streets and highways to make repairs.

"Anticipated territorial and other growth has prompted erection of the company's third 5,000,000 cubic foot daily capacity oil-gas generator," said Mr. Raber.

Six years ago, he added, this single machine would have supplied all the gas required for the San Diego Bay district. It had been originally budgeted for the 1928 construction program, but increased demand compelled the company to start the work months in advance.

HOUSTON GULF GAS CO. ELECTION OF DIRECTORS

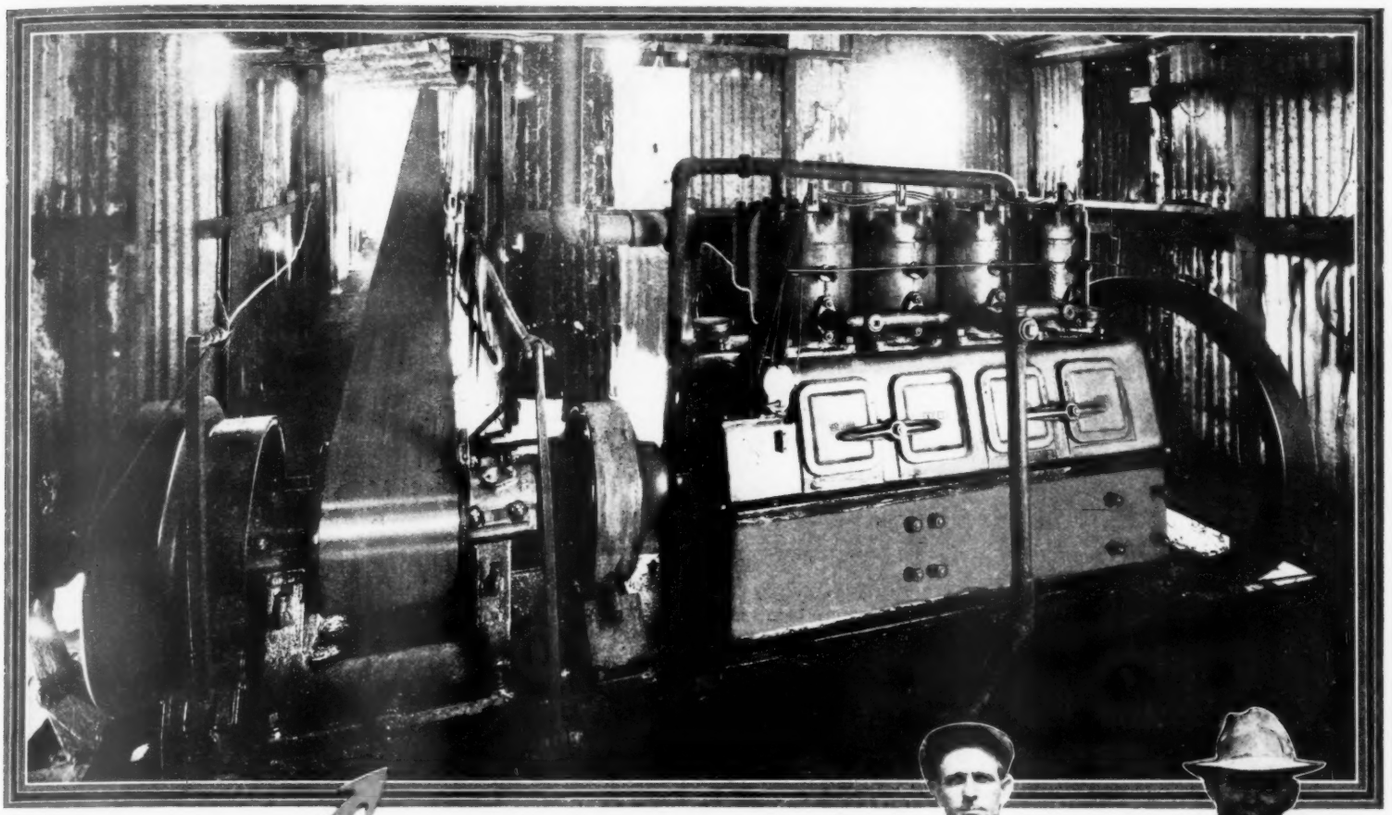
HOUSTON, Tex., Dec. 10.—Stockholders of the Houston Gulf Gas Co. have elected the following as a new board of directors: O. R. Seagraves, W. L. Moody, III, E. L. Phillips, Frank J. Stolts, George Olmstead, E. G. Connette, J. A. Elkins, I. E. Van Doorn, B. E. Heppler, C. B. Ewart and Henry R. Frost. The directors are to meet at New York to elect a president. W. L. Moody, Jr., of Galveston, Tex., is the present president. The company is the owner of the gas line from Southwest Texas fields to the gates of Houston.

FORD PLANT TO CONSUME AS MUCH AS ALL CITY

Henry Ford will soon be one of the largest consumers of manufactured gas in the Empire State, according to the Municipal Gas Co., of Albany, N. Y. The Ford Motor Co. has completed arrangements with the Municipal Gas Co. of Albany whereby the Green Island plant of the Ford company is to be supplied with 1,500,000 feet of gas daily within three months, and with 3,000,000 feet daily within six months. This vast flow of fuel is to be used in furnaces for the manufacture of batteries.

Three million cubic feet of gas a day is approximately the amount consumed by the entire city of Albany.

New York State leads all other states in the use of manufactured gas, and in 1926 established a high record of more than 110,000,000,000 cubic feet. Of this total it is estimated that 25 per cent was consumed in industrial heating processes, so that the new demand of the Ford company will increase the State's industrial consumption by approximately 4 per cent, or 1,000,000,000 cubic feet a year. The average consumption of a New York State home is less than 100 cubic feet of gas per day.



CLARK CLUTCH HANDLES HEAVIEST BELT STRAINS

Note the long, heavy, tightly stretched belt in the photograph—BUT note also the powerful pedestal bearing which carries the belt pulley of the CLARK Drilling Engine. This powerful construction absolutely protects the engine crankshaft from side pull.

The CLARK was the first successful gas drilling engine, and its clutch is the result of 5 years of careful development and costs 4 to 7 times as much as any other drilling engine clutch. The pulley and clutches are carried on a hollow shaft, within which the clutch shaft is full floating.

Rush and Mount are operating 4 CLARKS in the Crane County, Texas, district. This one is on the Sims lease. G. E. Seals and C. L. Flock, shown at right, said this CLARK is now on its 5th well and still going as strong as ever.

CLARK BROS. COMPANY
Olean, New York

Mid-Continent Branch and Warehouse
125 W. First St., Tulsa
Other Warehouses at McCamey, and Sweetwater, Texas; and Artesia, New Mexico.

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CLARK

MEN KNOWN IN OILDOM

Desaix B. Myers

The career of Desaix B. Myers, successor to C. R. McCollom, as chief geologist of the Union Oil Company of California, parallels in many ways that of the latter. He has been a mining and petroleum engineer ever since graduating from the Massachusetts Institute of Technology in 1908. From 1910 until the outbreak of the World War he was in private practice in Los Angeles, Calif., and continued as a consultant after returning from France, until joining the staff of the Union Oil Company in 1922. He was appointed assistant chief geologist of the Union in 1923. He served in France as a major of engineers, being 11 months with the Seventy-ninth Division at the front. He was chairman for the year 1923 of the Southern California Section of the American Institute of Mining and Metallurgical Engineers; is a member of the American Association of Petroleum Geologists and the American Society of Military Engineers.

Mr. McCollom, in expressing sincere regret at leaving the Union Oil Company, stated that it was a great satisfaction that Mr. Myers had been appointed his successor. Both geologists are residents of Pasadena, Calif.

The geological department of the Union Oil Company under Mr. McCollom, working in conjunction with Mr. Myers, W. W. Orcutt, vice president, Chester W. Brown, director of exploration and production, and Roderick Burnham, manager of lands, has brought in eight new producing fields in the past six years. Two of these, the Dominguez and Rosecrans-Athens Fields, are in California; four, Maverick Springs, Circle Ridge, Lake Creek and Sunshine are in Wyoming; and two others, the Fort Collins and Wellington structures, are in Colorado.

PERSONAL PARAGRAPHS

Frederick G. Clapp is exploring the oil fields of northern Persia.

* * *

Mr. and Mrs. Grover Crosbie have left Petrolia, Ontario, for the Colombia fields.

* * *

R. A. Josey, of Tulsa, Okla., president of the Josey Oil Company, has been in Houston, Tex., several days on business.

* * *

W. L. Waterbury, president of the Hope Petroleum Company, Fort Worth, Tex., was a recent visitor in the West Texas fields.

* * *

R. S. Lytle, of the Petroleum Securities Company, Los Angeles, Calif., has returned from an inspection trip through Pecos County, Texas.

G. M. Vandaveer, head of the pipe line department for Midwest Refining Company, is in LaBarge.

* * *

E. F. Goggins, special representative of the Dunn Manufacturing Company in Arkansas and Louisiana, was in Houston, Tex., several days.

* * *

C. J. Hockenauer, assistant sales manager of the A. O. Smith Corporation, of Milwaukee, Wis., has been spending a short time in Houston, Tex.

* * *

F. H. Hillman, former director of the Standard Oil Company of California, who retired several months ago, has been ill at his home in San Francisco.

* * *

J. M. Walsh, of New York City, has been in San Antonio, Tex., recently on business with Earl B. Reynolds. With Mr. Reynolds he left for the Panhandle.

* * *

William McKnight, who drilled the Devenish Petroleum, Ltd.'s No. 1 well at Skiff, has become general manager of the S. C. Ferdig Company, of Montana.

* * *

J. M. Burns, district manager of the Barber-Greene Company, Aurora, Ill., was a recent visitor in Fort Worth, Tex., and made a tour through the West Texas fields.

* * *

T. G. Madgwick, of the federal petroleum and natural gas department at Calgary, Alberta, has been able to leave the hospital following an operation for appendicitis.

* * *

Alexander Anderson, of Fullerton, Calif., inventor of the Anderson oil well survey instrument for determining the deflection of oil well holes, recently returned from a trip to Europe.

* * *

R. E. Bishop, sales manager of the Crystal Oil Refining Corporation, and Mrs. Bishop have returned to Shreveport, La., from a two weeks' vacation trip to Los Angeles, Calif.

* * *

Al Buchanan, for many years prominent as a drilling contractor in Texas, has been sick at his home in San Antonio for several weeks. He underwent an operation and is now back at his office.

* * *

A. B. Ryan, vice president of the Federal Supply Company, returned to Fort Worth, Tex., after an absence of three months during which he visited the company's branches in Oklahoma and California.

* * *

W. E. Olmsted, vice president and general manager of the Golden West Oil Company, at San Antonio, Tex., is back from a stay of several weeks in California, mainly at San Francisco and Oakland.

* * *

Carl C. Adams, consulting geologist, has returned to Fort Worth, Tex., from several months' magnetic survey work in eastern Colorado and western Kansas, and will be located in Fort Worth during the winter.

* * *

F. W. Burford, vice president of the Crystal Oil Refining Corporation, and J. B. Atkins, vice president and general manager of the Shreveport Producing & Refining Company, have returned from Chicago.

* * *

Ernest Carroll, assistant to the first vice president of The Texas Company, at Houston, Tex., and George Pruter, head accountant of the F. E. Simms Oil Company, have returned from a short hunting trip in West Texas.

* * *

C. M. Hocker, of San Antonio, Tex., and wife are back from a three months' honeymoon trip to California, Honolulu, Alaska and the Northwest. Mrs. Hocker was formerly Mrs. Kathleen Jones Blanchette of Corpus Christi, Tex.

* * *

Harry Frese, oil operator of Bowling Green, Ky., is spending a few days among relatives and friends in Toledo and Elmore, Ohio. Mr. Frese, with C. R. Dulin, opened up the famous Irving Field, in Estill County, Kentucky, some years ago.

* * *

G. H. Wallace, of Los Angeles, Calif., general sales manager of the Atlas-Imperial Diesel Engine Company, of Oakland, Calif., and who has been in Houston, Tex., for 10 days, has left for New Orleans, La., before returning to his home.

Thomas Van Every, of Pittsburgh, Pa., has been in Southwest Texas and especially San Antonio.

* * *

Announcement has been made this month by the Trico management of the appointment of A. H. Wagner as general superintendent of operations for Petroleum Exploration in Kentucky. He succeeds J. A. Smith, who was granted a year's leave of absence.

* * *

Arthur J. Coyle, of the Coyle-Concord Oil Company operating in Rockdale, San Antonio and West Texas, has been laid up in a hospital at Brady, Tex., in McCulloch County, due to an injury received when an automobile in which he was riding turned over.

* * *

F. E. Lewis, geologist in charge of the Delmar Oil Company's West Texas division with headquarters in San Angelo, Tex., returned to his duties following a business trip to Bartlesville, Okla., to the offices of the Indian Territory Illuminating Oil Company, parent company of the Delmar.

* * *

President E. A. Durham, of the Trico organization, has left Sistersville, W. Va., for an extended business trip to the western division in Kansas, Oklahoma and Wyoming. He expects to visit Bartlesville, Okla., Denver, Colo., and Basin, Wyo., in addition to several other places where he has business interests.

* * *

Arden Waggoner, field superintendent for the Arkansas Fuel Oil Company in the Bradley, Arkansas, district, and Bailey King, one of the crew engaged in working on the derrick of one of the company's wells, who were injured when derrick foundations gave way, have returned to their jobs after being patients in a Shreveport, La., hospital for several days.

* * *

R. O. (Arch) Lowrance, has been placed in charge of the Sinclair Oil & Gas Company's Abilene, Tex., office. He was formerly assistant to the superintendent of the land department in the Fort Worth office. M. H. (Mike) Lowrance, formerly connected with the purchasing company, was made assistant to the superintendent of the land department in Fort Worth.

* * *

E. C. Dawes, a nephew of Vice President Charles G. Dawes, has recently located in Shreveport, La., and entered the drilling contracting end of the oil business. He is secretary-treasurer of the recently-organized Ray-Dawes Drilling Company, of which Walter G. Ray is president and W. C. Woolf, of Keen & Woolf Oil Company, is vice president.

* * *

I. B. Humphreys, elected president of the Humphreys Corporation, Houston, Tex., following the death of his father, Col. A. E. Humphreys, has taken active control of the company's affairs. P. C. Murphy, general manager of Humphreys Brothers, Inc., Brownwood, Tex., has gone to Houston to serve as assistant to the president of the Humphreys Corporation. The company has oil production in Oklahoma and Texas fields.

* * *

Among outside operators who have been going over the Ohio, Daviess, McLean, Hancock, Henderson and other counties of the western division of Kentucky, making headquarters at Owensboro, Ky., the past week or so were: Dave Browning, Ashland, Ky.; Dan McQueen, Louisa, Ky.; C. R. McKechnie, Elmer Davis, and V. M. Lair, Monticello, Ky.; U. M. Dameron, A. S. Skinner, and O. H. Tracy, Bridgeport, Ill.; W. D. Loftus ,and F. S. Williams, Lawrenceville, Ill.; C. C. Carroll, Marshall, Ill.; Thomas Wittmer and H. R. Vincent, Pittsburgh, Pa.; S. S. Clough and E. J. Wade, Warren, Pa.; E. J. Evans, Paintsville, Ky.; Earl Tabor, C. L. Graham, and W. Roy Hogan, Bowling Green, Ky.; Joseph Myers, Anderson, Ind.; L. E. Gray, Princeton, Ind.; D. P. O. Breen, and Floyd Lineman, Oil City, Pa.; Neal Barnes, St. Marys, W. Va.; J. F. Alexander, Parkersburg, W. Va.; J. L. Hickman, Ashland, Ohio; A. S. McClintock, Cleveland, Ohio; O. W. Wetherbee, Dallas, Tex.; J. C. Sullivan, Madeleine, W. Va.; J. M. Garrison, Winchester, Ky.; Ambrose Percy, Monticello, Ky.; J. H. Harmon, Mansfield, Ohio; H. C. Smith, Columbus, Ohio; Ley and F. E. Browning, Ashland, Ky.; George L. Kew, Olean, N. Y.; E. J. Westerman, Woodsfield, Ohio; and I. M. Hunt, Edward S. Kuyler and James Rogers, Bowling Green, Ky.

With 4 Cup and Pipe Extensions

"OILWELL" IMPERIAL PLUNGER PUMPS

"OILWELL" Imperial Plunger Pumps have been giving satisfaction in both domestic and foreign fields for more than 20 years. They are designed and built to meet severe pumping conditions, and can be used with 2, 2½, 3 or 4-inch tubing.

Furnished in lengths from 5-feet 6-inches to 11-feet and with either plain or corrugated plunger, the latter affording a liquid seal which prevents oil slippage.

Simplicity of design is an outstanding feature ---the parts are not complicated and are few in number, and such parts as valve cages, balls, seats, cups and cup rings are "standard".

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WORLD'S OLDEST AND LARGEST MANUFACTURERS OF OIL FIELD EQUIPMENT

Petroleum Statistics for the Month of October, 1927

By G. R. Hopkins
Bureau of Mines, Department of Commerce.

Crude Petroleum—The production of crude petroleum in the United States in October, 1927, as reported to the Bureau of Mines, Department of Commerce, by companies which operate gathering lines, amounted to 77,081,000 bbls., a daily average of 2,486,000. This represents a decline of 17,000 bbls. from the daily average of the previous month.

Production in both Oklahoma and California, the two leading states, decreased in October, which constituted the chief reason for the decline in national output. The output of crude petroleum in Texas, however, recorded another increase and established a new high mark for daily average production of 609,700 bbls. Production in the majority of the other states decline, due both to continued low prices and to the approach of winter. Salt Creek production recorded another decline to the lowest point since October, 1921.

Stocks of crude petroleum, while recording another substantial increase, showed the effects of increased runs to stills and decreased production at Seminole. Total stocks east of California amounted to 345,357,000 bbls., an increase over September of 5,616,000 bbls. as compared with an increase in these stocks of 6,068,000 bbls. the previous month. Stocks of light and heavy crude in California decreased 1,514,000 bbls. as compared with a decrease of 246,000 bbls. in September.

Refined Products—A notable gain in throughput of crude petroleum at refineries was evidenced in October, 1927, when a total of 72,141,000 bbls. of crude petroleum was run to stills at refineries in the United States. This represents a daily average of 2,327,000 bbls., an increase over September of 34,000 bbls., and the highest figure ever recorded. The major portion of the gain in throughput in October was due to increased runs of foreign crude, which for the first time since 1921 exceeded the imports.

As was expected, gasoline consumption in October showed a material decrease from the previous month. Exports, however, showed a slight increase, with the result that stocks showed a slight reduction from the low point of the previous month. The daily average domestic demand for October was 822,000 bbls., a decrease from the previous month of 13 per cent but an increase over October, 1926, of 6.5 per cent. Stocks on hand October 31 amounted to 29,550,000 bbls. which, at the current rate of total demand, represented 31 days' supply as compared with 28 days' supply on hand a month ago and 39 days' supply on hand a year ago. Demand for kerosene continued brisk and stocks were again reduced. Lubricants' demand, however, reflected the decrease in motoring and showed a decrease from September, with a resultant increase in stocks. Stocks of wax showed an increase for the first time since April, 1927.

The refinery data of this report were compiled from schedules of 329 refineries, with an aggregate daily crude oil capacity of 2,909,000 bbls. These refineries operated during October, 1927, at 80 per cent of their recorded capacity as compared with 329 refineries operating at 79 per cent of their capacity in September, 1927.

Production in the Seminole Field in October, 1927, averaged 426,000 bbls. per day, which, though a decrease of 5,000 bbls. from the previous month, was considerably above the prediction and hope of the majority. Production in the Panhandle area continued to decline, as development work remained at practically a standstill. Seal Beach production continued its downward trend, due to rather rapid declines of wells in the deeper zones.

Long Beach experienced a revival of interest in October as a result of the discovery of a prolific deep zone. Daily production in this field increased 4,000 bbls. to a total of 94,000 bbls., which compares with 96,000 bbls. a year ago.

Stocks at Seminole continued to increase, and amounted to 13,809,000 bbls. at the end of the month.

A total of 134 wells were completed in the Seminole Field in October, the highest number of any month since the discovery of the field. Comparatively few new wells were started in the field, with the result that the number of wells drilling on October 31 was considerably below the average for the year.

PRODUCTION AND GRAVITY

(Barrels of 42 U. S. gallons)

	Sept., 1927		Oct., 1927		Oct., 1926		Average
	Total	Dy.av.	Total	Dy.av.	Total	Dy.av.	gravity
Seminole	12,925,000	431,000	13,210,000	426,000	1,935,000	62,000	41.0
Panhandle	2,845,000	95,000	2,775,000	90,000	4,627,000	149,000	36.0
Seal Beach	1,915,000	64,000	1,880,000	61,000	54,600	2,000	24.0
Long Beach	2,710,000	90,000	2,915,000	94,000	2,963,000	96,000	26.0

STOCKS AT SEMINOLE

(Barrels of 42 U. S. gallons)

	Sept.30,1927	Oct.31,1927	Oct.31,1926
Producers' stocks	466,000	449,000	.....
Tank farm stocks	11,852,000	13,360,000	.....
Total stocks	12,318,000	13,809,000	.....

RECORD OF WELLS, OCTOBER, 1927

(Barrels of 42 U. S. gallons)

	Completions—Oil	Gas	Dry	Total initial production	Average initial production	Drilling Oct.31,1927
Seminole	134	1	30	154,700	1,200	322
Panhandle	20	14	12	10,300	500	149
Seal Beach	5	..	..	2,000	400	14
Long Beach	4	.	.	9,300	2,300	30

STOCKS OF CRUDE PETROLEUM HELD IN THE UNITED STATES

		Sept. 30 1927	Oct. 31 1927	Oct. 31 1926*
AT REFINERIES (and in coastwise transit thereto), Reported by location of storage:				
East Coast:				
Domestic		9,062,000	8,772,000	9,485,000
Foreign		2,986,000	2,675,000	2,220,000
Appalachian		1,768,000	1,740,000	1,675,000
Indiana, Illinois, etc.		2,727,000	2,737,000	2,054,000
Oklahoma, Kansas, etc.		4,536,000	4,850,000	2,287,000
Texas:				
Inland		1,621,000	1,677,000	863,000
Gulf Coast:				
Domestic		7,295,000	7,473,000	7,536,000
Foreign		204,000	174,000	281,000
Arkansas and Inland Louisiana		355,000	402,000	710,000
Louisiana Gulf Coast:				
Domestic		5,130,000	5,643,000	7,519,000
Foreign		1,083,000	1,043,000	766,000
Rocky Mountain		1,446,000	1,368,000	1,487,000
Total east of California		38,213,000	38,554,000	36,843,000
ELSEWHERE THAN AT REFINERIES: Domestic—Reported by field of origin:				
Appalachian:				
N. Y., Pa., W. Va., Eastern and Central Ohio:	Gross	7,052,000	6,869,000	6,962,000
	Net	6,728,000	6,552,000	6,680,000
Kentucky:	Gross	1,269,000	1,212,000	1,291,000
	Net	1,139,000	1,081,000	1,165,000
Lima-Indiana:	Gross	1,160,000	1,230,000	913,000
	Net	1,007,000	1,077,000	702,000
Illinois-S. W. Indiana:	Gross	12,639,000	12,626,000	12,068,000
	Net	12,113,000	12,100,000	11,631,000
Mid-Continent:				
Oklahoma; Kansas; Central, North and West Texas:	Gross	220,356,000	226,506,000	149,451,000
	Net	208,300,000	214,707,000	137,350,000
Northern Louisiana and Arkansas:	Gross	29,392,000	28,130,000	36,145,000
	Net	26,640,000	25,628,000	33,839,000
Gulf Coast:	Gross	18,264,000	18,098,000	19,806,000
	Net	17,766,000	17,679,000	19,418,000
Rocky Mountain:	Gross	27,647,000	27,727,000	29,260,000
	Net	27,599,000	27,681,000	29,211,000
Total pipe line and tank farm stocks	Gross	317,719,000	322,458,000	255,896,000
east of California:	Net	301,292,000	306,505,000	239,996,000
Foreign crude petroleum on Atlantic Coast		53,000	100,000	72,000
Foreign crude petroleum on Gulf Coast		183,000	198,000	536,000
		236,000	298,000	608,000
Total refinery, pipe line, and tank farm stocks of domestic and foreign crude petroleum east of California		339,741,000	345,357,000	277,447,000
Classification by Gravity (approx.):				
East of California:				
Light crude (24 degrees and above)		291,581,000	297,263,000	222,137,000
Heavy crude (below 24 degrees)		48,160,000	48,094,000	55,310,000
California:				
Light		22,795,000	21,609,000	30,390,000
Heavy (including fuel)		92,186,000	91,858,000	87,529,000

*Final figures.

STOCKS HELD BY THE REFINING COMPANIES IN THE UNITED STATES, OCTOBER 31, 1927

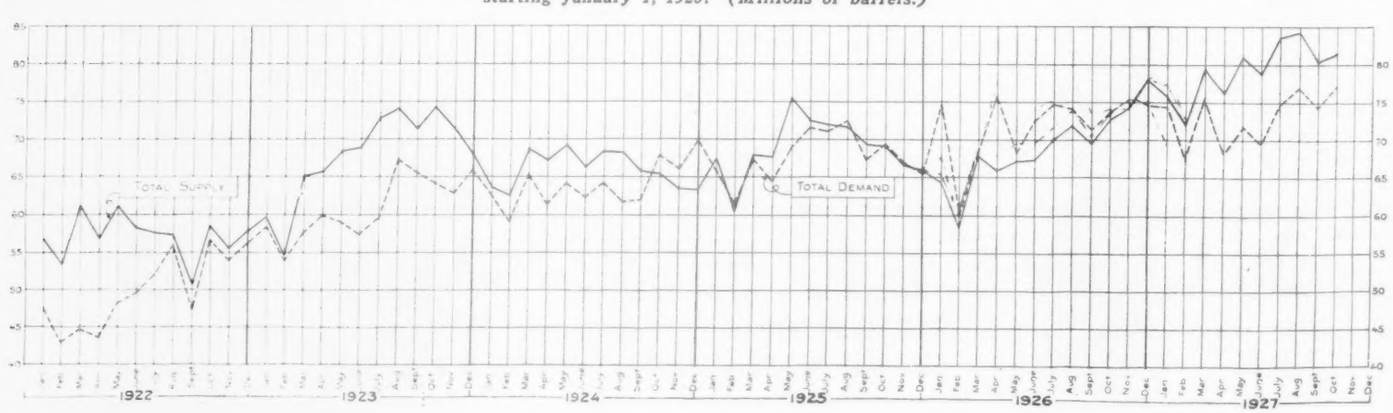
	Gasoline (bbls.)	Kerosene (bbls.)	Gas oil and fuel oil (bbls.)	Lubricants (bbls.)
East Coast	4,430,000	1,399,000	10,566,000	2,688,000
Appalachian	847,000	298,000	1,110,000	1,033,000
Indiana, Illinois, etc.	3,225,000	857,000	2,057,000	705,000
Oklahoma, Kansas, etc.	2,337,000	457,000	6,122,000	422,000
Texas	4,009,000	1,461,000	9,397,000	1,692,000
Louisiana and Arkansas	1,433,000	861,000	3,308,000	99,000
Rocky Mountain	1,408,000	177,000	631,000	107,000
California	11,801,000	1,815,000	.....	838,000
United States total	29,550,000	7,325,000	*33,191,000	7,584,000
United States total, 9/30/27	29,738,000	8,120,000	*31,631,000	7,447,000
Texas Gulf Coast	3,358,000	1,338,000	7,767,000	1,639,000
Louisiana Gulf Coast	1,299,000	848,000	2,758,000	98,000

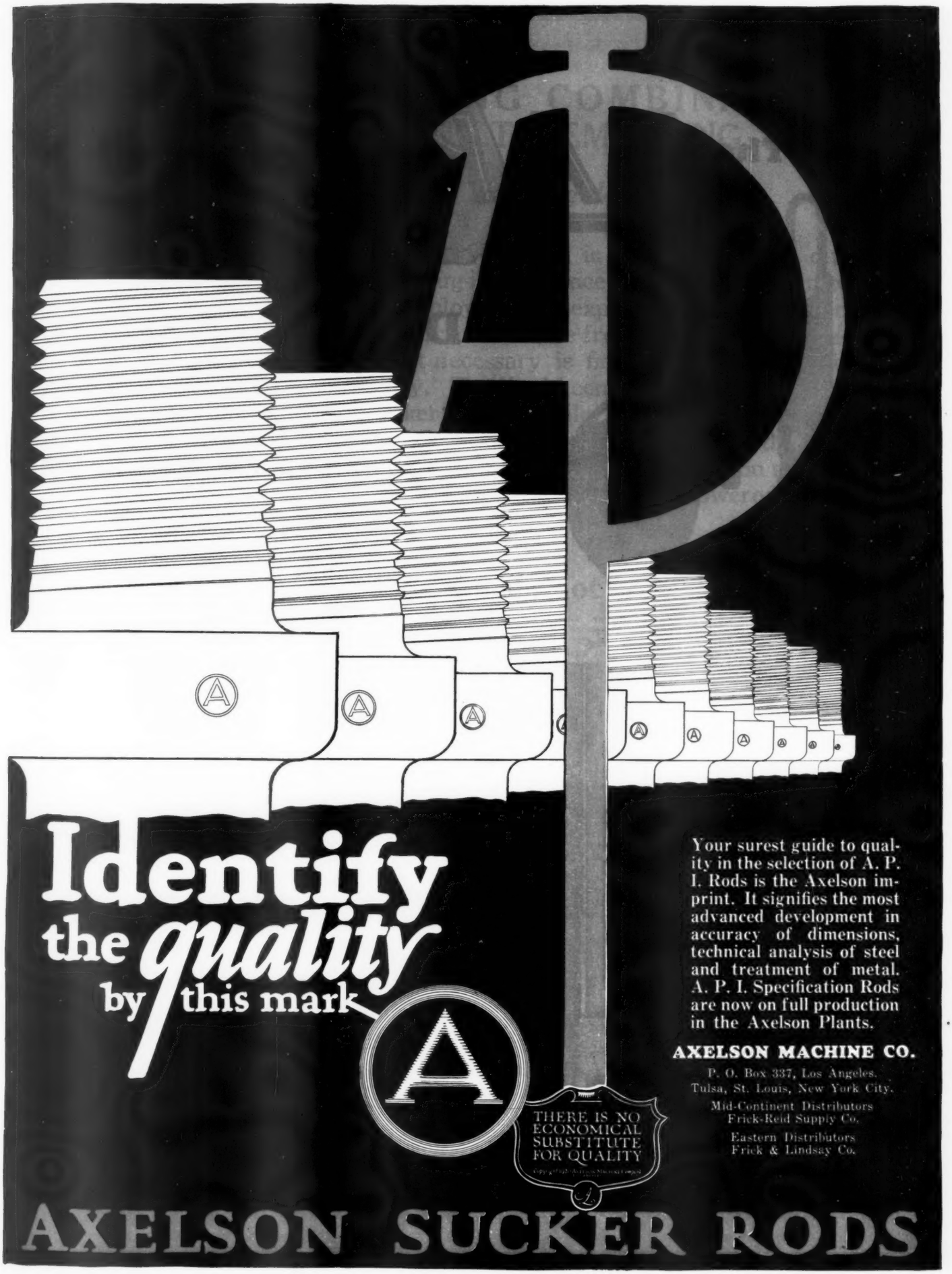
	Wax (lbs.)	Coke (tons)	Asphalt (tons)	Other finished products (bbls.)	Unfinished oils (bbls.)
East Coast	67,629,000	33,100	75,500	99,000	6,864,000
Appalachian	25,195,000	1,000	1,900	107,000	1,198,000
Indiana, Illinois, etc.	13,279,000	27,600	21,700	202,000	2,956,000
Oklahoma, Kansas, etc.	4,828,000	56,500	1,400	80,000	2,177,000
Texas	9,879,000	72,400	8,500	8,000	9,452,000
Louisiana and Arkansas	38,013,000	64,400	21,500	50,000	1,999,000
Rocky Mountain	11,438,000	76,200	9,000	32,000	1,893,000
California	96,000	.....	49,900	382,000	†9,335,000
United States total	170,367,000	331,300	189,400	960,000	35,874,000
United States total, 9/30/27	170,172,000	313,500	176,300	863,000	36,962,000
Texas Gulf Coast	9,739,000	60,860	8,500	3,000	8,170,000
Louisiana Gulf Coast	38,013,000	61,700	21,400	49,000	1,658,000

*East of California. †Includes 2,057,000 bbls. tops in storage.

(Continued on Page 99)

Crude oil supply (domestic production plus imports) and demand (domestic consumption plus exports). Data on demand include California fuel oil starting January 1, 1925. (Millions of barrels.)

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The BAKER

The Baker Cement Dump Bailer.

The Baker Sure-Shot Cement Plug.

DUMP BAILER

and

Sure-Shot

CEMENT PLUG

Cementing doubtless is the most important single operation performed during the drilling of an oil well. Thousands of dollars in time, money and production—possibly the well itself—depend upon the successful completion of this one part of the work.

Operators using the cable tool system can practically insure the success of their cementing operations by using the Baker Dump Bailer and the Baker Sure-Shot Cement Plug, whether expert cementing service is available to them or not. They are extensively used by drilling crews and their performance records in all fields have been uniformly successful regardless of conditions encountered.

Simple in Construction
Positive in Operation

FIG. 1

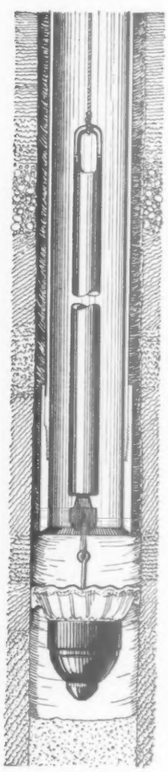


FIG. 2

A SUPER CEMENTING COMBINATION THAT INSURES PERFECT CEMENTING JOBS

Can Be Operated By Your Regular Crew

The dump bailer method of cementing a well is a very practical one when a Baker Sure Shot Cement Plug is used, since it does not necessitate rigging up the pumps nor the employment of expert cementers. When using this method the casing must, of course, be free, and circulation established. The amount of cement necessary is first calculated, and it must be of the proper consistency. The liquid cement is lowered to the bottom of the hole with the Baker Dump Bailer, the casing is raised above the level of the cement, and the Baker Cement Plug seals the bottom of the casing. The cement is forced out into the formation and up around the pipe by the displacement when the casing is lowered to its final landing.

Operation of the Baker Sure-Shot Cement Plug

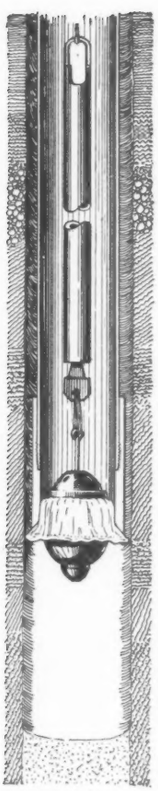


Fig. 3

The Baker Cement Plug should be run in on the bailer or tools after the cement has been dumped and before the casing is lowered. It is tied close to the bailer, or tools, with about five strands of common bailing or light telephone wire. The weight of the bailer or tools bearing down on the stem will open the relief valve and permit the cement plug to be run in more rapidly.

The cement plug is lowered below the casing shoe and then brought back with a stiff pull. When it reaches the shoe it will become wedged. The casing with the cement plug tightly wedged in the shoe, and still fastened to the bailer or tools, is then lowered to its landing, after which the tie is broken.

Most operators prefer to run the Baker Sure-Shot Cement Plug on the tools either by setting the drilling clamps on the casing collar and taking a stretch on the line, then setting up the clamps, letting the pipe and tools down together or clamping the drill line to the dead line in the casing block and in that way letting the pipe, tools, plug and all down together, breaking loose after the pipe is on bottom. By running the cement plug on the drill line it is sure of getting loose, whereas when it is run on the bailer you take a chance of pulling the sand line in two. Where the cement plug is run on the tools a heavier tie wire can be used and the plug wedged in the shoe with perhaps a greater degree of security. Where any difficulty might be experienced in breaking the tie wire it is possible to jar loose from the plug.

The Cement Plug seals the bottom of the casing and the displacement when lowering forces all the cement in the hole out into the formation up around the casing.

After the casing has been lowered run the bailer to make sure that there is no cement on top of the plug, as there is no way to determine just how large the hole is under the casing and the cement level might be higher than the casing shoe. Under no circumstances should a bailer be run down to the cement plug before the casing is landed.

Our new folder describing the construction and operation of the Baker Dump Bailer and Sure-Shot Cement Plug, together with list prices and valuable cementing data will be mailed to you on request.

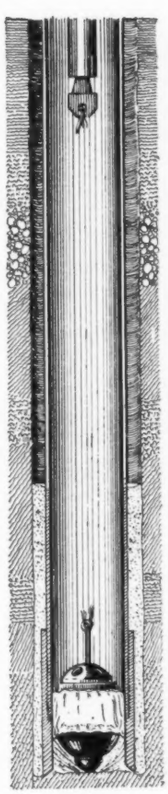


Fig. 4

TAFT, CALIFORNIA,

BAKER CASING SHOE COMPANY

COALINGA, CALIFORNIA

Box L, Huntington Park, Calif.

Export Sales Office:
25 Broadway, New York City

Mid-Continent Representatives:
B & A SPECIALTY COMPANY

220 E. Brady St., Tulsa, Okla.

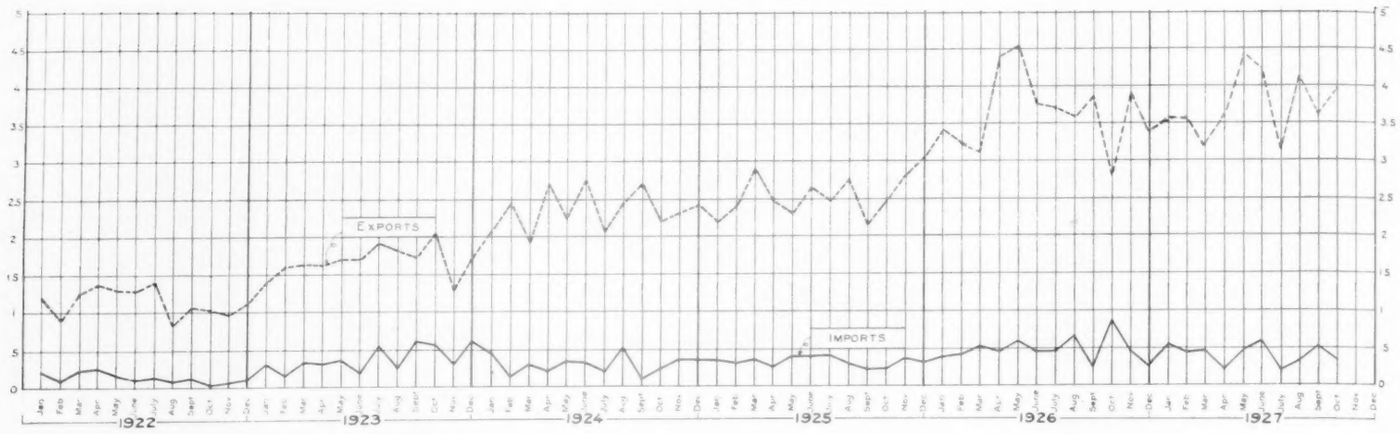
BASCO

708 Keystone Bldg., Houston, Texas

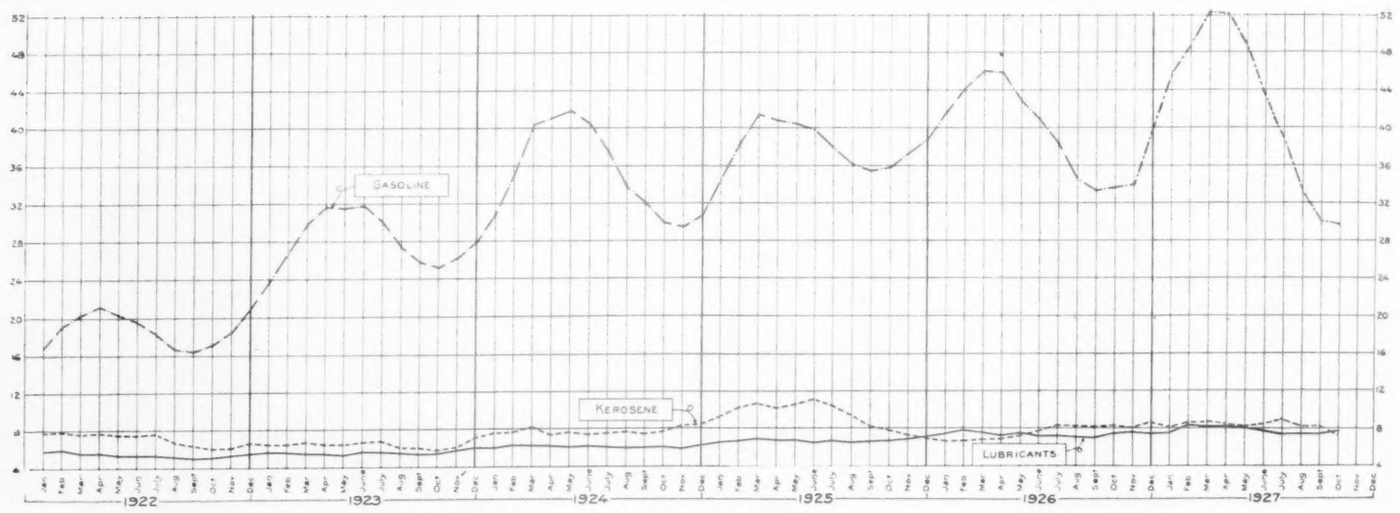
Graphic Analyses of Crude Oil and Refined Products

Based on Bureau of Mines Reports. Graphs include data up to December 1, 1927.

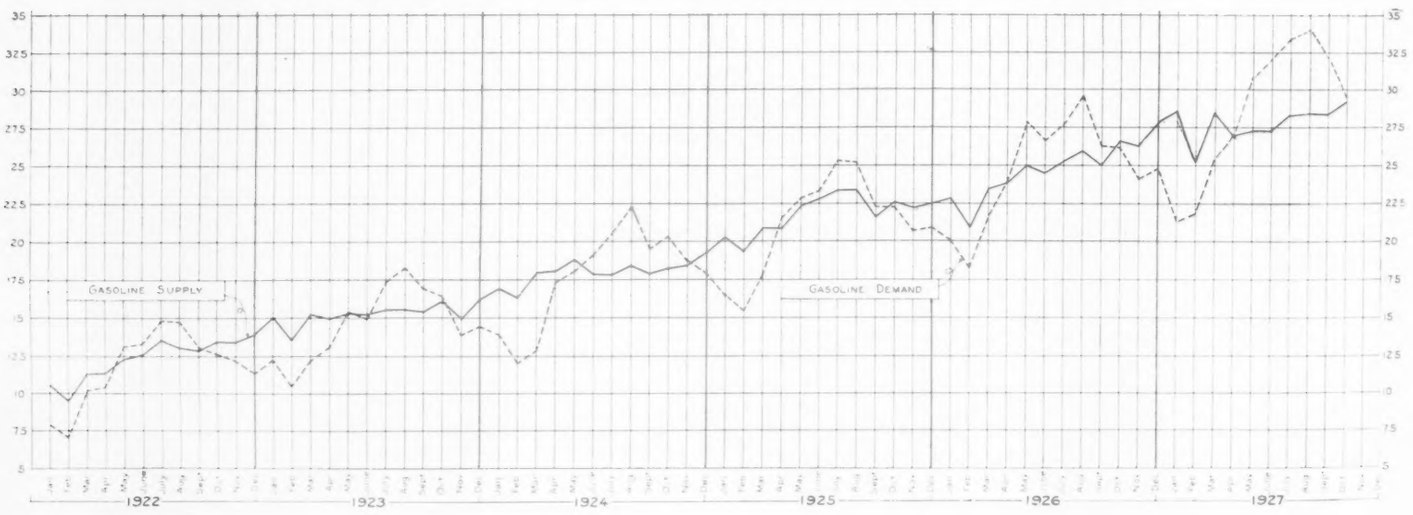
Gasoline imports and exports. (Millions of barrels.)



Gasoline, kerosene and lubricating oil stocks. (Millions of barrels.)



Gasoline supply (production plus imports) and demand (domestic demand plus exports). (Millions of barrels.)



CONSERVO BURNERS

Fire Reaches Every Inch of Boiler Heating Surface

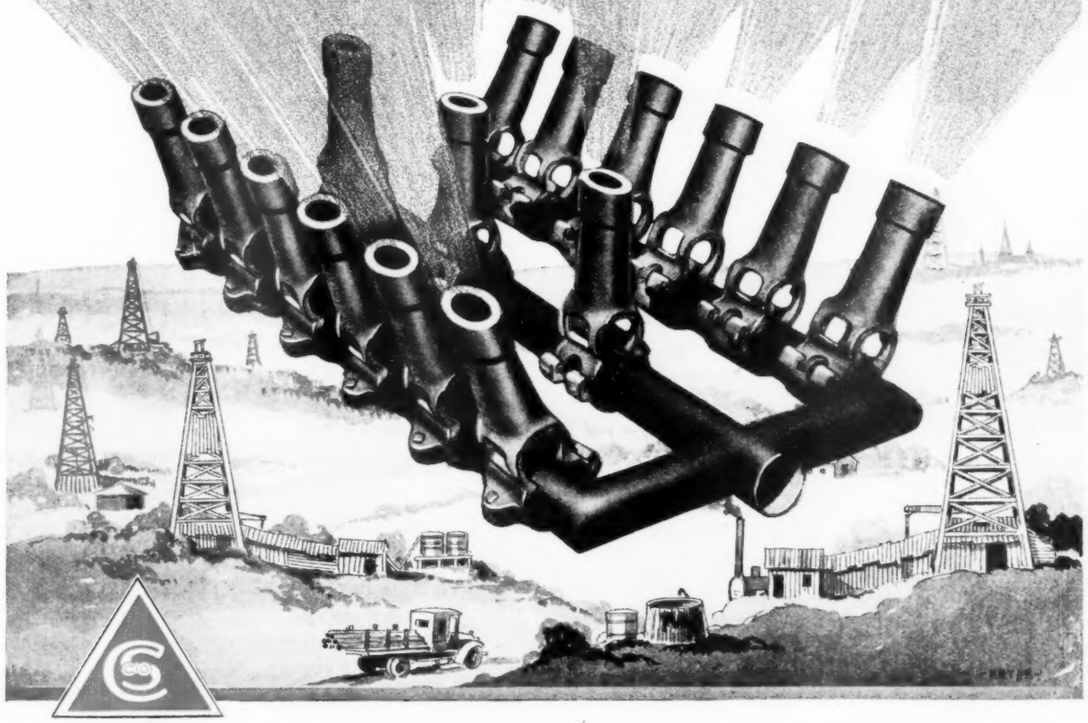
The design of the Conservo Low Pressure Gas Burner is such that the heat is *evenly distributed* over every inch of the boiler's heating surface. This means efficiency in *applying* the heat.

The other primary factor in this burner's exceptional efficiency is the design of the jets. They operate on the Bunsen principle, and burn ALL the gas.

"More heat from less gas," with this rugged burner. See it at our nearest store.

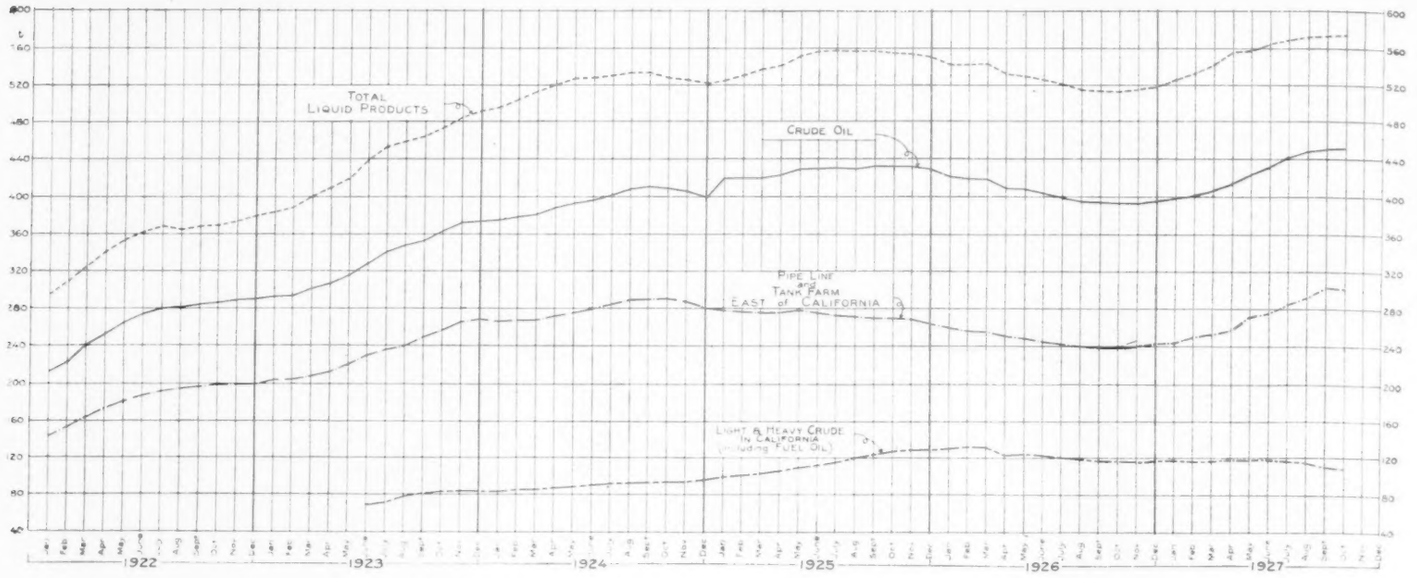
"If CONTINENTAL Sells It, There Is No Better"

THE CONTINENTAL SUPPLY COMPANY
General Offices: St. Louis
Export Office: 74 Trinity Court, New York
London Office: 316-317 Dashwood House, Old Broad St., E. C. 2
THE CONTINENTAL SUPPLY COMPANY, Ltd.,
69 Thomas Block, Calgary, Alberta, Canada

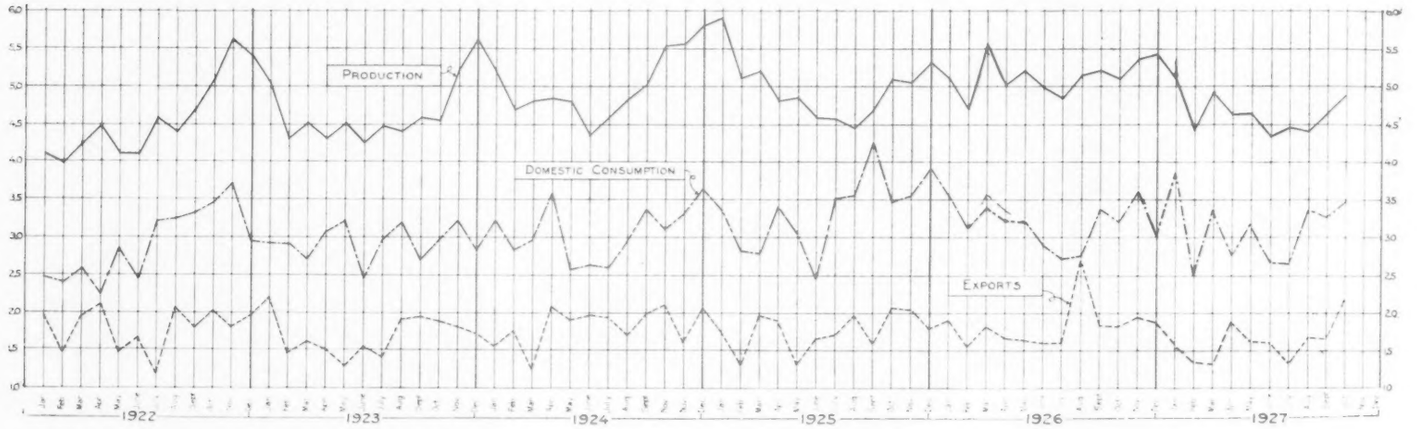


CONTINENTAL

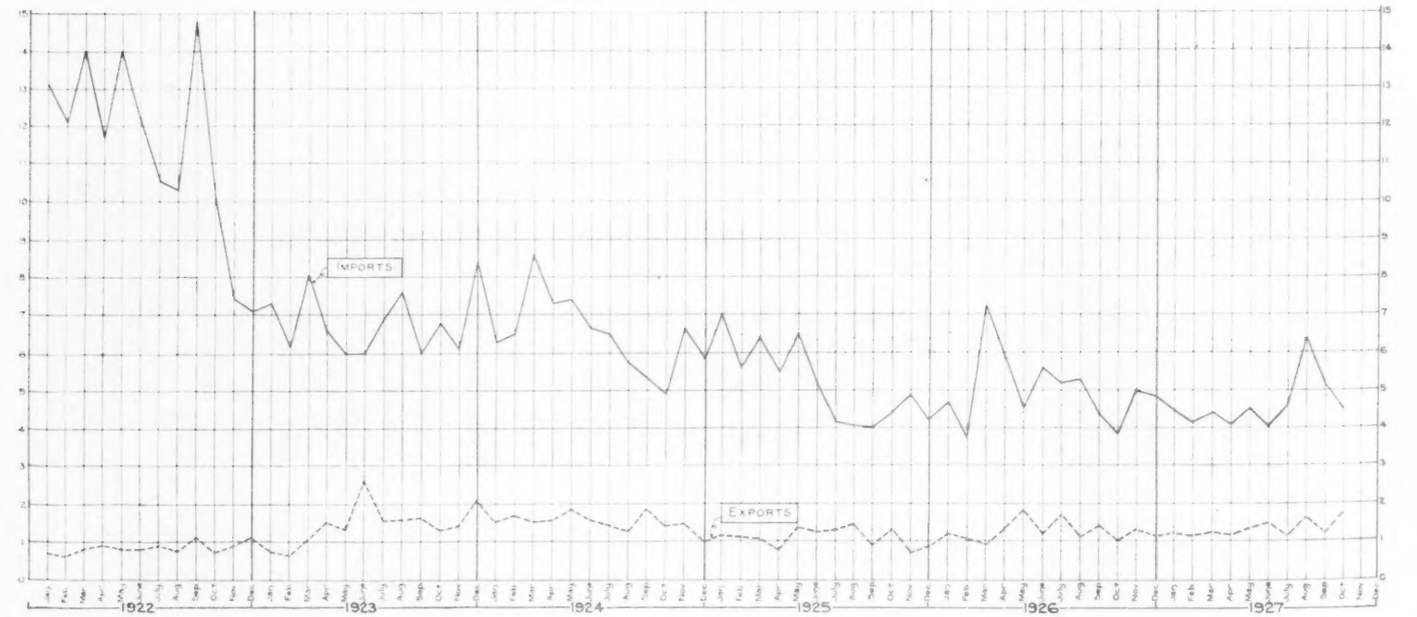
Crude oil stocks. The total liquid stocks given in line "Crude Oil and Refined Products" consists of all crude oil and refined products reduced to barrels. (Millions of barrels.)



Kerosene production, domestic consumption and exports. (Millions of barrels.)



Crude oil imports and exports. (Millions of barrels.)



TANKS
ANY SIZE
Erected
Anywhere

GRAVER *Corporation* *Founded 1857*

EAST CHICAGO, INDIANA

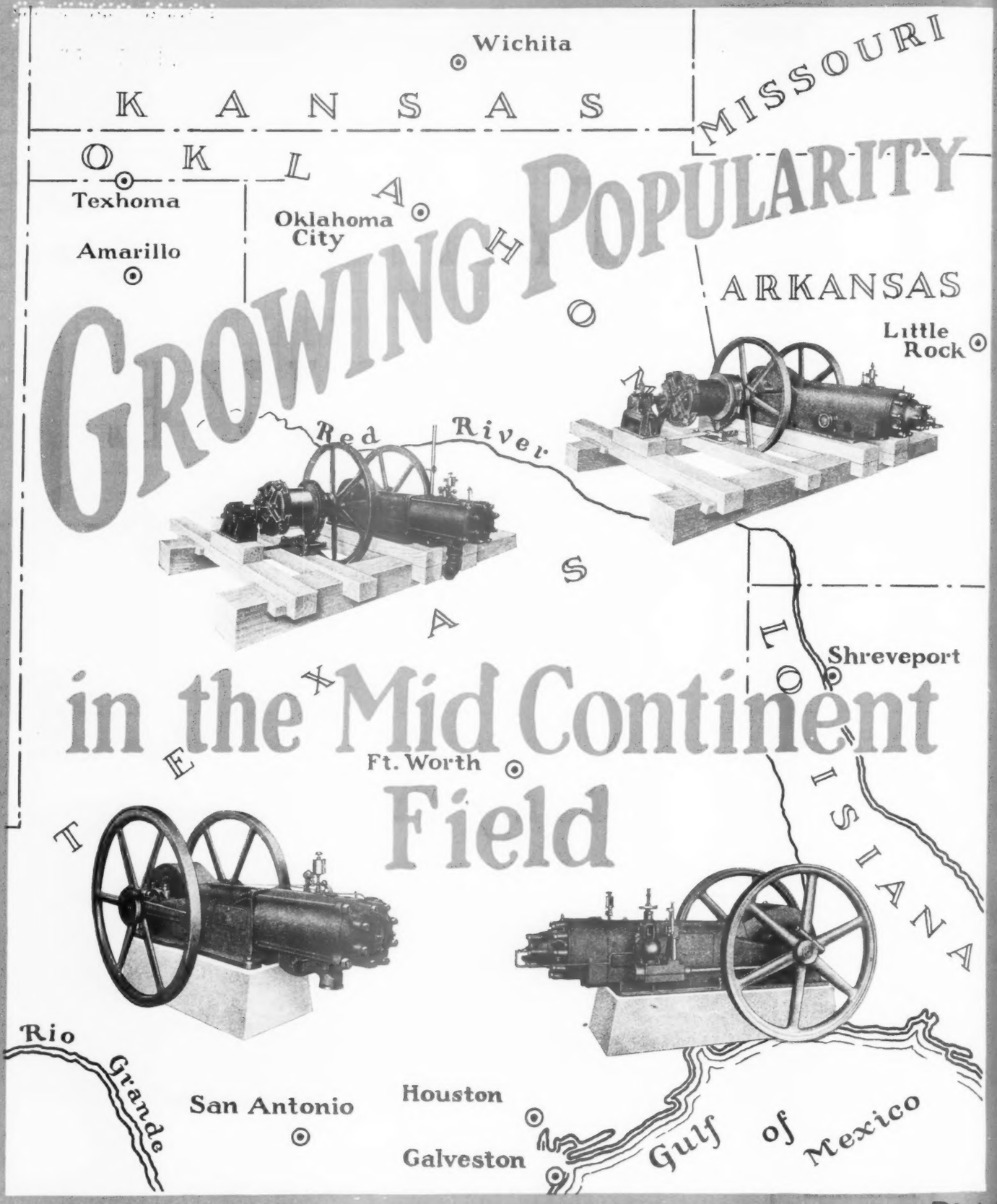
NEW YORK Grand Cent. Term. | CHICAGO America Fore Bldg. | TULSA Atlas Life Bldg. | HOUSTON West Building

Graver Builds

Tanks
Welded
Riveted
R.O.W. [*Riveted, Inside & Outside Welded*]
Structural Supports
Standpipes
Any Size Tanks Erected Anywhere

Pressure Tanks
Refinery Equipment
Jenkins Cracking Process
Stacks-Breechings
Steel Pipe
General Steel Plate Construction
Water Softeners
Hot Process
Cold Process
Zeolite
Household
Filters—*Pressure*
Purifying Systems *for* **Swimming Pools**

FRANKLIN VALVELESS



Distribu te

OIL WELL SUP

Branches in A

OIL AND GAS ENGINES

Franklin Valveless Oil and Gas Drilling and Pumping Engines grow more popular and more numerous every day with producers who used to think that steam was the only power for drilling or pumping.

And Why Not ?

FRANKLIN Valveless Engines were "born" in 1879 almost in the shadow of the first "petroleum well" ever drilled and for 47 years have been used exclusively for oil, gas and artesian drilling and pumping. Their appearance in the mid-continent field is fairly recent, but with a record of thousands, yes, *thousands* of successful jobs in the eastern area behind them, it is not surprising that Franklin Valveless finds growing popularity in the fields where speedy, economical drilling and pumping is most appreciated.

Steam has always been the prime favorite in this section but with the margin of profit between operating costs and contract prices growing narrower every day, a more economical and satisfactory power unit finds quick favor.

$20.00 Saved Per Day

The cost of fuel for a Franklin Valveless Engine is actually less than that of a Ford automobile! Lubricating costs are absurdly low, and 100 barrels of water is sufficient for both cooling and mud-mixing for 1000 ft. of hole. $20.00 or more saved per day is the report from operators who have changed over to this simple, sturdy engine.

And the old idea about oil engines not being flexible goes by the boards when you first see a Franklin Valveless on the job. Depth or ground conditions make no difference to its smooth, dependable flow of power.

You Take No Risk

When the Franklin Engine was first introduced it was necessary to qualify the sale with an absolute guarantee. That clause has become obsolete and unnecessary, for we have never had a customer who was dissatisfied with Franklin performance.

While an inexperienced crew can set up and operate the Franklin Valveless without trouble or delay, our distributors will dispatch an expert factory mechanic to your locations upon request.

Write today for catalog and detailed information.

FRANKLIN VALVELESS ENGINE FEATURES

1—It is a single cylinder, three port, two cycle, valveless engine.

2—The cylinder—instead of being cast integral with the outer wall of the water jacket and bolted to the frame—consists of a liner which is inserted in the frame and securely held in position by the cylinder head.

3—Metal in the frame is properly distributed to give greatest possible strength.

4—Of enclosed type—but easily accessible.

5—Crankshaft very heavy and well proportioned. Counter-weights for balancing the reciprocating parts are secured to the shaft by means of U bolts and keys.

6—All bearings and gears run in a bath of oil—insuring perfect lubrication.

7—By change of cylinder head the engine is suitable for operation with either oil or gas.

8—*Drilling engine can be replaced with pumping engine without changing a single bolt on the original engine bed!*

FRANKLIN VALVELESS ENGINE CO.
Franklin, Pa.

ted By

PLY COMPANY.

All Oil Fields

Interchangeable!

The G-R Bentube Sections

are standard and interchangeable. Sections may be moved about the plant and built up into stacks of various capacities or cooling effect as required by changes in operating conditions.

The Griscom-Russell Company
285 Madison Ave., New York
Branches in principal cities.

Note these additional features of the G-R Bentube Section

Maintains guaranteed capacity by automatically shedding scale accumulations.

Construction of Admiralty metal tubes and cast iron headers assures long life and high salvage value.

Tubes readily accessible for easy cleaning of interior.

Design provides for drainage and free expansion.

Griscom-Russell

Heat Transfer Apparatus

HEAT EXCHANGERS
CONDENSERS
Sub-cooling—Partial—Reflux
Shell-and-Tube, Atmospheric, and Condenser Box Types
COOLERS
Liquid—Gas—Jacket Water
Shell-and-Tube, Atmospheric, and Condenser Box Types
OIL HEATERS
LEVEL CONTROLLERS

EVIDENCE LACKING IN GASOLINE MANIPULATION

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With this great expansion numerous large and efficient independent companies developed and the potentiality of competition was restored. This is in great contrast to the situation less than 20 years ago when one company, absolutely controlled by a small group of men, completely dominated the petroleum industry, determining the prices of both crude petroleum and refined products.

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"Resolved, That the Federal Trade Commission be, and is hereby, directed to investigate and report to the Senate at the next session of Congress:

"First. The very material advances recently made in the price of crude oil, gasoline, kerosene and other petroleum products and whether or not price increases wewre arbitrarily made and unwarranted.

"Second. Whether or not there has been any understanding or agreement between various oil companies or manipulations thereby to raise or depress prices, or any conditions of ownership or control of oil properties or of refining and marketing facilities in the industry which prevent effective competition.

"Third. The profits of the principal companies engaging in the producing, refining and marketing of crude oil, gasoline, kerosene, and other petroleum products during the years 1922, 1923, 1924 and 1925, and also such other matters as may have bearing upon the subjects covered by the provisions of this resolution."

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The outstanding factor at the beginning of each of the five years, the report says, seems to have been a general anticipation on the part of leaders of the oil industry, that crude petroleum production and imports for the coming year would be insufficient for domestic refinery requirements, and that the reserves of crude petroleum in storage would not be fed into the market unless current production and imports proved insufficient to supply the demand.

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When this distribution was complete the former stockholders of the Standard of New Jersey were left in direct control of 34 operating companies engaged principally in transportation and refining of crude oil and the marketing of refined products.

While the dissolution decree did not change the ownership of the Standard interests it made that ownership direct in the stockholders of the Standard of New Jersey instead of indirect through it as a holding company. Nor did the decree change the control which the Standard interests as a whole had over the industry.

However, the change of ownership of Standard interests from stockholdings in a single company to holdings of stock in many companies with different possibilities and earning powers was sure in the course of years to disperse this control as individuals found it desirable to dispose of part of their holdings or as death necessitated distribution of them, or to dilute it as expansion of the industry required the use of new capital.

Crude Production Listed

Crude petroleum production in total and by fields as well as consumption, stocks and prices are the subject matter of a chapter replete with statistics and authentic information.

Production, consumption and prices of refined products with complete schedules of prices form another chapter.

Competition in the production of crude petroleum, competition in marketing gasoline, profits of crude petroleum producing and pipe line companies, and investment and profits of petroleum refiners, are the substance of successive chapters.

Illustrative of the breadth of subject matter and the detail of treatment of the commission's petroleum report are the following miscellaneous quotations:

"At the present time probably from 75 to 85 per cent of the total quantity of gasoline consumed in the United States is sold to the retailer or ultimate consumer either by the company manufacturing it or by an affiliated or subsidiary concern.

"Since the beginning of the industry the United States has produced almost 65 per cent of the aggregate world production of crude petroleum.

United States Leads World

"The totals for 1926 show that the United States produced over 70 per cent of the world's total, Mexico more than 8 per cent and Russia 5 8/10 per cent.

"Imports of refined products increased eight fold from 1920 to 1926, namely, from 2,916,000 bbls. to 20,900,000 bbls.

"Both gasoline imports and exports increased during 1920-1926, but the increase for imports was much greater than for exports.

"There was a marked falling off in the proportion of small companies during the decade 1909-1919, and large gain in both intermediate and large-sized concerns.

"Seventeen companies, including the production of their subsidiary and affiliated companies, had a production of crude petroleum in excess of 10,000,000 barrels each in 1926.

Pipe Line Mileage 9,000

"Pipe lines were first utilized by the petroleum industry as early as 1865, only six years after the drilling of the first oil well in 1859.

"A recent survey by the United States Bureau of Mines give the total pipe line mileage of the country as a little over 90,000 miles.

"No complaints regarding the railroad transportation of petroleum in recent years have come to the attention of the commission, in marked contrast to conditions 21 years ago.

"The quantity of illuminating oils or kerosene produced in 1909 was more than three times as great as the quantity of gasoline produced, while in 1925 gasoline production was nearly five times the kerosene production.

"The quantity of crude consumed increased from about 121,000,000 bbls. in 1909 to almost 738,000,000 bbls. in 1925, an increase of 511 per cent.

Standard of New Jersey Leads

"The most important single company in the industry in everything but crude production and proven acreage controlled is the Standard of New Jersey. With its subsidiaries it has roughly 15 per cent of the total output of refined products except kerosene, of which it has 21 per cent.

"Attendance by stockholders in person at meetings of a company is usually small. For the oil and refining companies whose records were examined this attendance was found usually to be under 10 and some of the stockholders' meetings of the Continental Oil Co. were held by a single individual.

"In the early part of 1925 the Standard of Indiana, certain banking interests, and British interests represented by Lord Inverforth, acquired from Edward L. Doheny and family 501,000 out of 1,001,559 shares outstanding of the voting stock of the Pan American Petroleum & Transport Co., the Doheny group retaining a minor but substantial interest in the company.

No Spot Market

"There is no spot market for crude petroleum.

"The great bulk of crude, not refined by the company producing it, is bought from the producer at the price posted for crude at the oil wells by the large crude petroleum purchasing companies.

"Fifteen companies purchased in the aggregate 50 per cent of the total production of the country in 1924, 47 7/10 per cent in 1925, and 51 3/10 per cent in the first half of 1926.

"In 1920 crude petroleum prices were advanced in January and early in February and maintained throughout the year at the highest level ever attained since the earliest years of the petroleum industry.

"The year 1927 opened with stocks about 28,500,000 bbls. smaller than the year before, and consumption at the highest monthly rate ever attained by the petroleum industry.

Threw Away Gasoline

"In the early days of the petroleum industry, kerosene was the most important product of the refining process. Gasoline was often thrown away as there was little demand for it.

"There is such a wide range in the prices paid for crude petroleum in the different oil fields east of the Rocky Mountains that no satisfactory average price can be shown.

"Gasoline has quite a rigidly fixed minimum demand in the field of its chief use as a motor fuel so that the price may increase considerably without any proportionate reduction in consumption, or price may be reduced without a proportionate increase in consumption.

"Gasoline prices were not increased or reduced simultaneously in all parts of the country and there were wide differences in the extent of such changes (1921-1927.)

Oregon First to Tax

"The State of Oregon levied the first tax upon gasoline sales in 1919.

"Prior to the dissolution decree the Standard Oil Co. relied upon its ownership of pipe lines to give it control of oil produced, rather than upon actual ownership or control of the oil producing lands.

"The total acreage of proven and unproven oil lands held on June 30, 1926, by companies reporting to the commission, which amounted to more than 24,000,000 acres, is classified in three groups composed, respectively, of Standard companies, foreign-controlled companies and independent companies.

"As a rule the Standard Oil companies have less than 1 per cent of the sales of gasoline in territories other than their own.

"The wide spread which frequently exists between tank car and tank wagon prices is the cause of a great deal of the so-called 'price cutting' that occurs at times in many parts of the country."

Interchangeable!

The G-R Bentube Sections

are standard and interchangeable. Sections may be moved about the plant and built up into stacks of various capacities or cooling effect as required by changes in operating conditions.

The Griscom-Russell Company
285 Madison Ave., New York
Branches in principal cities.

Note these additional features of the G-R Bentube Section

Maintains guaranteed capacity by automatically shedding scale accumulations.

Construction of Admiralty metal tubes and cast iron headers assures long life and high salvage value.

Tubes readily accessible for easy cleaning of interior.

Design provides for drainage and free expansion.

Griscom-Russell

Heat Transfer Apparatus

HEAT EXCHANGERS
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The decree providing for dissolution of the Standard Oil Co. of New Jersey was affirmed by the Supreme Court May 15, 1911, and six months later the company began distribution of the stocks of its 33 principal subsidiaries to its own stockholders, in accordance with the permission given by the decree.

When this distribution was complete the former stockholders of the Standard of New Jersey were left in direct control of 34 operating companies engaged principally in transportation and refining of crude oil and the marketing of refined products.

While the dissolution decree did not change the ownership of the Standard interests it made that ownership direct in the stockholders of the Standard of New Jersey instead of indirect through it as a holding company. Nor did the decree change the control which the Standard interests as a whole had over the industry.

However, the change of ownership of Standard interests from stockholdings in a single company to holdings of stock in many companies with different possibilities and earning powers was sure in the course of years to disperse this control as individuals found it desirable to dispose of part of their holdings or as death necessitated distribution of them, or to dilute it as expansion of the industry required the use of new capital.

Crude Production Listed

Crude petroleum production in total and by fields as well as consumption, stocks and prices are the subject matter of a chapter replete with statistics and authentic information.

Production, consumption and prices of refined products with complete schedules of prices form another chapter.

Competition in the production of crude petroleum, competition in marketing gasoline, profits of crude petroleum producing and pipe line companies, and investment and profits of petroleum refiners, are the substance of successive chapters.

Illustrative of the breadth of subject matter and the detail of treatment of the commission's petroleum report are the following miscellaneous quotations:

"At the present time probably from 75 to 85 per cent of the total quantity of gasoline consumed in the United States is sold to the retailer or ultimate consumer either by the company manufacturing it or by an affiliated or subsidiary concern.

"Since the beginning of the industry the United States has produced almost 65 per cent of the aggregate world production of crude petroleum.

United States Leads World

"The totals for 1926 show that the United States produced over 70 per cent of the world's total, Mexico more than 8 per cent and Russia 5 8/10 per cent.

"Imports of refined products increased eight fold from 1920 to 1926, namely, from 2,916,000 bbls. to 20,900,000 bbls.

"Both gasoline imports and exports increased during 1920-1926, but the increase for imports was much greater than for exports.

"There was a marked falling off in the proportion of small companies during the decade 1909-1919, and large gain in both intermediate and large-sized concerns.

"Seventeen companies, including the production of their subsidiary and affiliated companies, had a production of crude petroleum in excess of 10,000,000 barrels each in 1926.

Pipe Line Mileage 9,000

"Pipe lines were first utilized by the petroleum industry as early as 1865, only six years after the drilling of the first oil well in 1859.

"A recent survey by the United States Bureau of Mines give the total pipe line mileage of the country as a little over 90,000 miles.

"No complaints regarding the railroad transportation of petroleum in recent years have come to the attention of the commission, in marked contrast to conditions 21 years ago.

"The quantity of illuminating oils or kerosene produced in 1909 was more than three times as great as the quantity of gasoline produced, while in 1925 gasoline production was nearly five times the kerosene production.

"The quantity of crude consumed increased from about 121,000,000 bbls. in 1909 to almost 738,000,000 bbls. in 1925, an increase of 511 per cent.

Standard of New Jersey Leads

"The most important single company in the industry in everything but crude production and proven acreage controlled is the Standard of New Jersey. With its subsidiaries it has roughly 15 per cent of the total output of refined products excpet kerosene, of which it has 21 per cent.

"Attendance by stockholders in person at meetings of a company is usually small. For the oil and refining companies whose records were examined this attendance was found usually to be under 10 and some of the stockholders' meetings of the Continental Oil Co. were held by a single individual.

"In the early part of 1925 the Standard of Indiana, certain banking interests, and British interests represented by Lord Inverforth, acquired from Edward L. Doheny and family 501,000 out of 1,001,559 shares outstanding of the voting stock of the Pan American Petroleum & Transport Co., the Doheny group retaining a minor but substantial interest in the company.

No Spot Market

"There is no spot market for crude petroleum.

"The great bulk of crude, not refined by the company producing it, is bought from the producer at the price posted for crude at the oil wells by the large crude petroleum purchasing companies.

"Fifteen companies purchased in the aggregate 50 per cent of the total production of the country in 1924, 47 7/10 per cent in 1925, and 51 3/10 per cent in the first half of 1926.

"In 1920 crude petroleum prices were advanced in January and early in February and maintained throughout the year at the highest level ever attained since the earliest years of the petroleum industry.

"The year 1927 opened with stocks about 28,500,000 bbls. smaller than the year before, and consumption at the highest monthly rate ever attained by the petroleum industry.

Threw Away Gasoline

"In the early days of the petroleum industry, kerosene was the most important product of the refining process. Gasoline was often thrown away as there was little demand for it.

"There is such a wide range in the prices paid for crude petroleum in the different oil fields east of the Rocky Mountains that no satisfactory average price can be shown.

"Gasoline has quite a rigidly fixed minimum demand in the field of its chief use as a motor fuel so that the price may increase considerably without any proportionate reduction in consumption, or price may be reduced without a proportionate increase in consumption.

"Gasoline prices were not increased or reduced simultaneously in all parts of the country and there were wide differences in the extent of such changes (1921-1927.)

Oregon First to Tax

"The State of Oregon levied the first tax upon gasoline sales in 1919.

"Prior to the dissolution decree the Standard Oil Co. relied upon its ownership of pipe lines to give it control of oil produced, rather than upon actual ownership or control of the oil producing lands.

"The total acreage of proven and unproven oil lands held on June 30, 1926, by companies reporting to the commission, which amounted to more than 24,000,000 acres, is classified in three groups composed, respectively, of Standard companies, foreign-controlled companies and independent companies.

"As a rule the Standard Oil companies have less than 1 per cent of the sales of gasoline in territories other than their own.

"The wide spread which frequently exists between tank car and tank wagon prices is the cause of a great deal of the so-called 'price cutting' that occurs at times in many parts of the country."

COOPER

Cecil F. Elmes builds plant for Henrietta Pipe Line

The photograph shows the compressor station recently completed by the Cecil F. Elmes Organization of Chicago for the Henrietta Pipe Line Company near Wetumka, Oklahoma. Mr. A. H. Robinson was the engineer in charge of building the complete plant.

Engineering organizations such as this with valuable reputations to guard seldom take any chance on the equipment they choose, especially when it comes to so important machinery as engines and compressors. That explains why you will find so many of them insisting upon Cooper Four-Cycle Gas Engines.

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ENGINES

CERTAIN FUNDAMENTAL CONDITIONS IN CEMENTING OFF WATER IN WELLS

By John F. Hough, C.E.*
Structural and Technical Bureau, Portland Cement Association, Chicago

As the art of drilling and developing oil properties has progressed, increasing thought, labor and money have been expended on various methods, devices and equipment for arresting the intrusion of water into pay sands. The use of portland cement has, through the merits of the material, come to be almost the universal practice for combating this serious problem. The successful use of portland cement in oil wells is dependent upon certain fundamental conditions which if carefully maintained will enhance the success of the material in establishing a water-tight wall between the casing and the sides of the hole. When any one, or combination of more than one, of the fundamentals are not observed, the cementing operation may fail.

It is very difficult in many cases to make anything like a satisfactory study of the cause of a cementing failure. Cement grout is mixed a half a mile or more from the form into which it is to be cast. This form is out of sight, several thousand feet in the ground, and must be reached through a tube varying from 2 inches to perhaps 10 inches in diameter. The form itself is a tube, relatively thin with respect to its length and to the thickness of the desired impermeable wall that the grout is to make between the casing and the sides of the hole. This wall may vary in thickness from nothing at points where the casing comes in contact with the sides of the hole, to several inches, or feet, elsewhere.

Whether the cementing process is resortd to for shutting off top, intermediate or bottom water, it is desired that the hardened grout will form an impermeable wall or packer that will defeat the migration of water from its normal subsurface location to the oil sands. In the consideration of the use of portland cement for this purpose, impermeability is probably the first thing to be considered.

Quantity of Water

Research in making concrete with portland cement has determined that the strength and other qualities of concrete is dependent upon the quantity of the mixing water used in its making. A definite relation has been established between strength, and the ratio between the water and cement. Fully confirmed, this relation is now expressed as a law, and is stated as folows:

"For given materials and conditions of manipulation, the strength of concrete is determined solely by the ratio of the volume of mixing water to the volume of cement so long as the mixture is plastic and workable."

The water-cement ratio not only governs the compressive strength of concrete, but likewise other desirable qualities including its degree of impermeability. Impermeable concrete requires nonporous aggregates thoroughly incorporated in a cement paste that is itself impermeable. An impermeable paste requires in turn a low water-cement ratio and thorough mixing.

Later experiments have determined that the strength, and therefore the impermeability, of neat cement grout are also dependent upon the water-cement ratio.

Neat cement grout as used in the process of cementing wells, contains no aggregate, so that the question of workability, which is one of the factors of the water-cement ratio law in concrete, is reduced simply to the question of the smallest amount of water that can be used to produce grout that can be properly mixed and handled, when consideration is given to the machinery involved and the physical condition of the hole in which the cement mass is to be placed.

Any consistency of grout that is capable of being handled by pumps or other oil well cementing equipment, is workable; so there remains only the consideration of the effect of the quantity of mixing water on the ultimate strength and impermeability of the hardened grout.

Chemical Reaction

Cement, after being mixed with water, hardens through a chemical reaction between the cement and water generally expressed as the hydration of the cement. Complete hydration can be accomplished by an amount of water that is insufficient to produce a material fluid enough to be handled in the cementing process. Therefore it is necessary to use an additional amount of water which may be called an excess, and which is not needed to combine with the cement and cause hydration, but is required to give workability to the grout.

Any amount of water not used up in the chemical process of hydration, eventually escapes through evaporation or otherwise, or it may remain loosely entrained in cavities or pores which its presence created. Any water or other substance which can enter a mass of grout after it has hardened, must do so through the openings once occupied by the mixing water which was not utilized in the chemical changes incident to hardening. Thus the porosity of the hardened grout is determined by the quantity of this uncombined water. This explains why grout with the lowest water-cement ratio will have less porosity, and therefore greater resistance to the action of migrating water and gas in a well. The most impermeable wall that can be placed around the casing, then, is attained by the use of a grout made with the least amount of mixing water.

To graphically illustrate this fact, into four test tubes was poured an amount of grout containing in each case the same amount of cement, but each mixed with a different amount of water. The grout was allowed to harden undisturbed and the results noted. The water-cement ratio used were by volume of the cement. Tube No. 1 contained grout made in a water-cement ratio of 0.60; tube No. 2, 0.75; tube No. 3, 0.85 and Tube No. 4 1.00. The grout in tube No. 4 has hardened into a mass, the volume of which is an increase of approximately 37 per cent over the volume produced by the grout in tube No. 1. If these specimens were allowed to dry out, this 37 per cent increase in volume would be mostly voids, formerly occupied by the excess mixing water. Grout of the same thin mixture as in tube No. 4, placed in a well would in all probability not dry out, but the excess mixing water might remain entrained in the mass, or in case of being subjected to static pressures of formation water or gas, might be forced out and immediately replaced by the foreign elements thus entering, establishing a channel or line of flow that the cementing operation is employed to eliminate.

The water-cement ratios used in this experiment represent the range of mixtures observed in use under actual conditions in the oil fields. Due to ease of handling, many operators usually use a very thin grout, at times even thinner than a water-cement ratio of 1.00. Grout mixed in the ratio of six-tenths of a cubic foot of water (4½ gallons) to 1 cubic foot of cement (1 sack) is a fairly thick mixture that experience has shown can be used in wells. The speaker has never seen a cementing pump that was incapable of handling the thickest grout used in the experiment just described.

Possibly the greatest improvement that could be applied to the present day cementing process, would be the development and use of a mixing device that would produce grout of a uniform consistency throughout an entire cementing operation. In all processes known to the speaker, the consistency of the grout will vary from fairly thick to exceptionally thin in the same operation.

Curing Important

In all tests involving portland cement, curing has proven to be an important fac-

(Continued on Page 88)

*Before American Petroleum Institute, Chicago.

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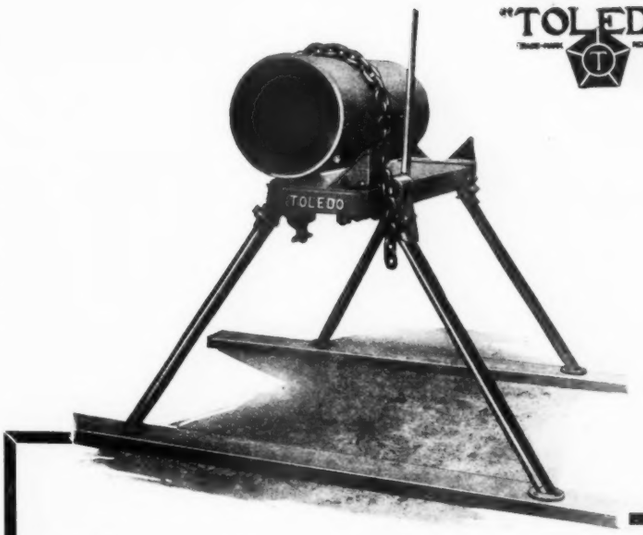

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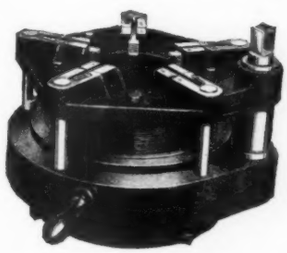

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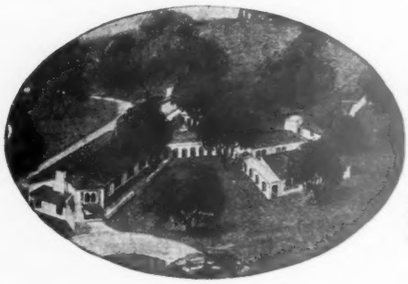

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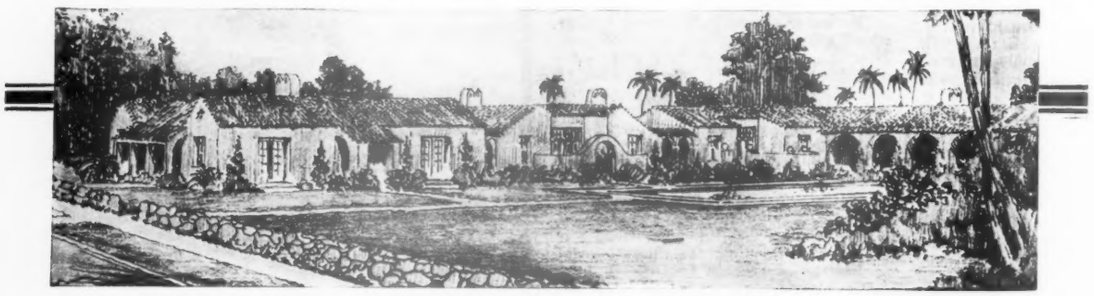

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COMBATING CORROSION IN PETROLEUM REFINERY

(Continued from Page 34)

mately 134,000 bbls. of a highly corrosive California oil was processed, the cast steel headers lost approximately one-sixteenth inch, while the decrease in wall thickness of forged return bends was one-fourth inch.

In a refinery processing Luling crude oil it was also found that forged steel headers corroded quite rapidly during processing of the oil and their difficulties practically vanished when cast steel return bends were used. In this plant they found that 15 forged return bends corroded per unit per year. However, in another unit where cast steel return bends were used of the key type and plugs of forged steel that corrosion was negligible after a year's operation on the same crude. The face of the plug had corroded away approximately one-sixteenth inch. When using special alloys, such as aluminum bronze, the corrosion rate was high.

This brings an interesting question in electrolysis when using cast steel and forged steel, which has a low electric potential under the conditions prevailing at this plant. There have been some experiments conducted on chromium plate return bends, as well as calorized, which did not give satisfactory results; this was probably due to the methods used during their manufacture.

During the past year a process has been worked out whereby ordinary steel castings, such as return fittings, can be manufactured using an alloy surface of noncorrosive metals. The thickness of the protecting surface can be built up to one-fourth inch, if desired. A few fittings have been manufactured having a 12 to 14 per cent chromium iron surface. They have not been tested out a sufficient length of time to draw any conclusions.

Plugs

In topping and pressure stills the return bends of the tubular portion of the system require plugs for closure. The tendency in the industry is to change from a screw plug to the tapered type. It is claimed by many that the taper joints have the advantage of longer life. The joint is considered safe and corrosion is less of a factor because of the type of metal which can be used, and the joint is more easily broken. There is, however, a difference of opinion as to the advantages of the tapered type joint.

In one plant, where corrosion conditions are high, it is working out in a satisfactory manner by using cast steel bends with forged steel plugs. The usual material used for the tapered type plug is ordinary forged steel. However, in some cases plugs containing 12 to 18 per cent chromium have been successfully used. There was a tendency to freeze in the return fitting in some instances when using the tapered type of plug.

The screwed type plug is the most widely used in the industry. This type of plug containing chromium and nickel has a high coefficient of thermal expansion, which permits of ready removal when cooled, and is apparently highly resistant to erosion and corrosion. However, they have not been in service long enough to permit of a full conclusion as to their utility in refining equipment.

Chromium plated plugs were experimented with but the results were not satisfactory, due to the electroplating peeling off.

Reaction Chambers

The reaction or vaporizing chambers and dephlegmators used in refinery equipment are the critical points in a distillation apparatus. Corrosion and increasing the life of reaction chambers and dephlegmators is a problem and the obvious solution is to add sheer weight of metal thereby increasing their life. The lease complicated and most generally used is that of increasing the wall thickness of steel chambers in order to allow for deterioration by corrosion.

The lining of reaction chambers with steel or alloy plates by welding to the walls, has been tested with fairly satisfactory results. The difficulty has been that the linings have buckled, cracked or torn away from wall of the vessel. Better success has been experienced by the lining of the limited areas which are subjected to the maximum corrosion. That the lining method is not wholly satisfactory is shown by the fact that some corrosion takes place behind the lining, due to oil and vapor coming in contact with the chamber wall, but that it cuts down corrosion is certain and therefore helpful to some degree.

Another line of attack is to roll inside the vessel a corrosion resistant plate fitting tightly therein. This procedure is still in an experimental state.

Chromium Plating

A method of protecting steel vessels from corrosion, which has high promise of success, is that of chromium plating the walls. When a reaction chamber is properly chromium plated with approximately three-thousandths of an inch thickness, it will resist corrosion in a remarkable manner. Some reaction chambers which have been chromium plated have been in service a sufficient length of time, processing high corrosive oils, so that one can conclude that it practically solves the problem of corrosion, as far as large vessels are concerned.

However, there is great difficulty involved in successfully chromium plating large vessels. In many instances chromium plating failed because the plate did not adhere to the surface of the base metal. It peeled off and this was apparently due to the steel surfaces not being properly cleaned of adsorbed gases, moisture or scale or oxides. When a base metal such as steel is properly conditioned and chromium plating properly carried out, the adherence of the chromium metal to the steel wall is tenacious indeed and will adhere to the surface under the high temperatures and pressures to which the chambers are subjected during refinery operation.

It may well be that chromium plating of pipe lines, storage tanks, and much refinery equipment in order to resist corrosion will work out in a satisfactory manner. There is a particular desire on the part of some manufacturers to build large chambers out of chrome alloys or chrome nickel alloys in order that they may resist corrosion. That chambers made of the alloys just mentioned would resist corrosion is certain, but their cost may be prohibitive.

Another line of experimental work which may lead to a satisfactory conclusion is the protection of large chambers by building up wholly or in part the surfaces of the shell still to any desired depth with a corrosive resisting material by applying the alloy or metal to the surface by means of electrical, acetylene or hydrogen welding. Chrome iron, chrome nickel iron or any other satisfactory metal or alloy could be used.

It has been found in a number of reaction chambers that corrosion is preferential in the vapor zone thereof, hence it has been thought advisable to build up the zone where maximum corrosion takes place with a resistant surfacing material, such as an alloy of chromium or the like, key paste or other cementing material.

The rate of corrosion in some reaction chambers due to sulphur crudes being processed under high temperatures and pressures has reached as high as one-sixteenth of an inch per month. The economic loss is not alone that of metal or replacement but also a marked decrease in the throughput of oil.

Pipe Connections

Transfer and other piping connections where corrosion conditions are severe, chrome iron of 16 to 18 per cent has been highly successful in overcoming corrosion of impellers in centrifugal pumps been found to be satisfactory.

Pumps

Corrosion difficulties with hot oil pumps have not been particularly severe due to the use after experimentation, of chrome iron, or chrome nickel iron. Corrosion if impellers in centrifugal pumps has been satisfactorily overcome by using chrome iron containing approximately 17 per cent of chromium. With the Surge type pump there has been little difficulty encountered due to corrosion. However, in the direct positive action type of pump, corrosion had been a problem until the use of chrome iron in fabricating certain parts, such as guides, balls, etc., was resorted to.

Valves

Very little difficulty has been experienced with cast steel valves from corrosion, yet they do corrode. Some valves containing 1 per cent chromium and 2 per cent of nickel have been in service for a long time. Their service life is much longer than cast steel valves under corrosion conditions coming within my experience. Relatively recently approximately 17 per cent chromium iron valves have been fabricated and they should have a long life under severe service conditions.

Flue Gas Circulating System

The corrosion of recirculating flue gas sytems which are in use in many refineries has been of considerable annoyance. The circulating fan has given considerable trouble from corrosion. The difficulties have been overcome by manufacturing steel fan blades of varying percentages of chromium or chrome nickel. In some cases monel metal fans have given good results, but not in others. As a usual practice steel fans are permitted to corrode away and then are replaced. However, it would appear to be better economy to put in chrome iron or an equivalent corrosion resisting alloy and obtain continuous service.

Paints

The application of paints to the walls of vessels has been experimented with. A real investigation of the effect of paint as a protecting medium has been started due to the discovery that some shop reference numbers were painted on the inside surface of a reaction chamber during manufacture. Field inspection showed after the reaction chamber had been in service, that the steel wall covered by the paint had escaped corrosion, so that the letters were raised and the balance of the chamber had corroded away from one-sixteenth to one-eighth of an inch of metal.

Just what the composition of the point was has not been determined as yet. In several test samples of steel, coated with a special paint and suspended in the vapor zone of a still, they showed that they were more resistant to corrosion than samples which were not painted.

Extensive tests are now being conducted to more definitely determine the value of various paints as surface protecting mediums, subjected to various conditions of temperatures and pressures.

Gun Spraying Metals

Several investigators are continuing their experimental work with the gun spraying method for protecting metallic surfaces by coating the metal with aluminum, chrome iron, chrome nickel iron and the like. So far, in pressure still equipment, they have not been commercial.

Commercial tests are being continued with gun spraying of aluminum lead, zinc, monel metal, chrome iron, chrome nickel iron, upon refinery equipment, such as treating equipment, storage tanks and parts of distillation equipment. Some show certain advantages dependent upon the equipment upon which they have been used.

Nitralloys

Relatively recently a process has been developed which forms a hard surface upon steel, due to the formation of nitralloys, which may be possibly useful in protecting refinery equipment from corrosion. The process consists in using special base alloys which are subjected to the action of heat and ammonia gas. Experiments are being conducted on samples of nitralloys under commercial conditions in order to test its corrosion resisting properties. It is interesting to bring out that in a commercial operation some reaction chambers have shown the inner surface to be extremely hard. This has led to the conclusion that nitrogenization took place in the steel. The nitrogenization of the steel reaction chamber probably took place due to the ammonia, nitrogen or other dissociation products of the nitrogen compounds in the oil, which were produced under the temperature and pressure conditions prevailing.

IMPORTANT MARKET CHANGES UNDER WAY

(Continued from Page 29)

sidiary of the Standard of New Jersey) in Arkansas, and Louisiana.

The Standard Oil Co. of California has become interested in oil properties in the Mid-Continent both directly and through subsidiary companies. Its properties in West Texas indicate that it will become one of the largest producers of crude oil in that area. It is expected that the company will shortly establish itself as a large refiner and distributor.

Ohio Situation

The State of Ohio furnishes an excellent example of the effort being made by the Standard companies to find new outlets for their products. The Standard Oil Co. of Ohio was the original Standard distributor in that territory. During the past year it has witnessed other Standard competition come in from all sides. The Vacuum Oil Co., which has practically freed itself from its former Standard affiliations, took away the exclusive agency which the Ohio Standard had in the distribution of its lubricating oils and placed it in hands of independent jobbing interests.

A jobbing subsidiary of the Pan American Petroleum & Transport Co. has acquired outlets in Ohio. The Louisiana Oil Refining Corp., generally credited with Standard of New Jersey affiliations, is now a large distributor in the State. In addition such Standard companies as the Atlantic Refining Co. and the Standard Oil Co. of Louisiana have sold large quantities of gasoline and other products in the State in tank car lots.

Government's Attitude

Other instances pointing to the expansion plans of the Standard companies could be cited. It is certain that there will be additional important developments next year. Some believe that the ultimate solution of the problem for some of the smaller Standard units will be reconsolidations to facilitate national distribution. The objection that this would not be possible under the Government's dissolution decree probably would not hold.

The Government's original action was to break up a monopoly and this aim has certainly been accomplished. New companies have come into the business whose operations through mergers and purchases are almost as widespread in some respects as were the original Standard company. With this widespread competition established it is assumed that the Government would not object to consolidations among the smaller Standard groups to enable them to compete with the larger units.

As to what effect this trend toward national distribution will have on the present competitive situation in the marketing of petroleum products few conclusions can be made. There are those who take the position that there is already too much competition in the sale of petroleum products.

Others would modify this statement to read that there is "too much of the wrong kind of competition." One of the disturbing factors in the refined markets is due to the fact that many of the larger companies—both Standard and independent—do not have sufficient direct outlets to take care of their refinery output. As a result these companies are accustomed to "dump" large quantities of gasoline and kerosene and other products in tank car and tanker lots on the market to be distributed by independent jobbing interests.

This excess being in the nature of distress material naturally sells at low prices f.o.b. refinery and these low prices ultimately disturb the consumers' market. With all the major companies having sufficient direct outlets for their crude oil production and refineries this situation would not arise. Consumers' prices presumably would be established in line with all the costs entering into the production and distribution of the finished products without the disturbing factors now present.

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SOME BASIC CONDITIONS IN CEMENTING OF WELLS

(Continued from Page 85)

tor in the development of the ultimate strength or ultimate quality of the hardened mass. In making concrete, proper curing is one of the most important elements in producing water tightness. The process of hardening is slow but continues indefinitely so long as temperatures are favorable and moisture is present to complete hydration. The rate at which hardening proceeds is affected by temperature. In cementing oil wells, neither the temperature of the hole nor the condition of moisture can be regulated, but these two conditions are usually favorable to the hardening of the grout so that in the majority of cases the factor, curing, may be resolved to maintaining other physical conditions within the well propitious to the hardening process.

Frequently a well may be making water or gas from a formation adjacent to or below the location where it is desired to place the grout. Under the agitation caused by infiltering water, gas or oil, cement cannot be expected to properly harden. If the agitation is not violent, it can often be quieted by circulating thick mud fluid. Mud fluid under high pressure will often quiet a very violent agitation by forcing the water or gas back into the sand. This may offer only temporary relief and should be followed as quickly as possible by the placement of the cement grout with a system that will allow the mass to be placed under pressure. During the early period of curing or hardening this pressure should be constantly maintained. Normally, 36 to 48 hours should suffice. It must be borne in mind that built-up pressure within the well may become dissipated through defective joints or by other causes, and it may become necessary to boost the pressure at periodic intervals during the hardening period. This can be done with the mud pump. A gauge on the swedge nipple would be good insurance.

Oklahoma Experience

During investigations in the Oklahoma fields, it was noticed on several occasions that the cementing outfit had carefully sealed a built-up pressure within the well. An hour or two later the drilling contractor attempted to remove his elevator and found that he could not get it over the handle of the valve in the swedge nipple. (The elevator was the slipring type.) The valve stem was first sawed off but even then the elevator would not clear. The valve was subsequently completely removed, releasing the built-up pressure. The elevator was removed and the valve carefully replaced. In one instance when the casing apparently had a defective float shoe valve, it was found that the cement grout had backed up in the casing a considerable distance. In another case where the cementing had been done through tubing, the grout apparently had hardened, but a complete water shut-off was not accomplished. It is very important that the cement grout be undisturbed during its early period of hardening and curing.

Among the few fundamental conditions which if regularly maintained in the cementing of wells will enhance the success of the operation, one of the first that should be given consideration is the condition of the hole. The mere fact that a hole can be measured to a certain depth does not mean that it is in condition to cement. The circulation should be as free as possible and every reasonable precaution taken to allow the placement of the grout in as thick a wall as possible near the lower end of the casing. Underreaming is a practice that is not resorted to as much as its resulting advantages would warrant. Cable tool holes benefit particularly from this operation.

Shape of Grout Mass

The ultimate shape of the grout mass when set, and its distribution radially as well as vertically, have much to do with its effectiveness. It is well known that a string of casing will not hang concentrically within the hole; that neither casing nor hole will be absolutely straight, and that at many points the casing will be in contact with the wall of the hole. It is not practical to drill a hole enough larger than the casing to prevent these conditions, but adequate reaming will help matters greatly. In an unreamed hole, when the grout is forced up the outside of the casing, there will be no grout at the points of contact between the casing and the side of the hole, and there will be a deposit on the opposite side of the casing ranging from 3 to 4 inches up to several feet thick in caving formations. A local projection of the wall in contact with the casing here or there will probably not jeopardize the result of the cementing job. If, however, the contact joints are so numerous that they constitute a line of contact connecting a water sand above with the bottom of the casing, and thus permitting the water to flow into the oil or gas-bearing stratum along this line, the cementing job has failed. In a well-reamed hole, the cement is forced up and around the irregular projections of the sides of the hole filling the large crevices. A little mud may be trapped here and there in the smaller crevices but this should cause no harm. It seems unlikely that the grout will wash all the mud out of these small spaces and on this feature hinges a much-argued question as to the advisability of the use of a thin mixture of cement grout. Advocates of the thin mixture claim that it will wash the mud out of the narrow places better than the thick mixture, and allow more grout to be placed. This is not a good argument, for it has been demonstrated that just as good, if not better, results can be gained by thinning the mud fluid and circulating it for a few minutes before the grout is run. Under no condition should the cement grout be made thinner than is absolutely necessary to its proper handling and placing.

Underreaming, perhaps 10 or 15 feet, immediately above the tight hole usually drilled as a set for the casing shoe, will in any case increase the possibility of success in cementing.

Chemical Reagents

In considering only the materials used in cementing oil wells, without entering into a discussion of the merits of the various mechanical methods in common use, second only to the effect of the amount of mixing water, comes the consideration of the reaction of certain chemical reagents when used with portland cement.

Within certain limitations calcium chloride or calcium oxychloride may be used in portland cement mixtures to hasten hardening and increase early strength. The amount of admixture required to produce the most beneficial effect seems to be dependent upon the chlorine content. Only small amounts of these admixtures may be used to advantage. The greatest acceleration is obtained with 2 to 4 per cent of calcium chloride, or 7 to 10 per cent of calcium oxychloride by weight of the cement. With these percentages, tests covering a period of three years show no indications of reduced strength. If quantities of these materials greater than the percentages just mentioned are employed, the strength decreases.

Reagents for use in cementing oil wells are sold in the oil fields in ready prepared solutions in drums. The containers usually specify the amount of the solution that may safely be used per bag of cement. These amounts should never be exceeded.

There is evidence to show that calcium chloride and similar compounds do not react in the same manner with all brands of portland cement. Trial batches of the brand of cement and the brand of accelerator proposed to be used should be made up and the ratio of hardening at temperatures that will be encountered in wells noted before proceeding with their use in this important work.

In a series of tests, calcium chloride was used in the percentages of 1, 2, 3, 4 and 5, by weight of the cement. The optimum effect was with the use of 3 per cent. The richer mixes, or those containing the greatest proportion of cement, show the greatest increase in strength with the use of 2 or 3 per cent of calcium chloride; also the richer mixtures show

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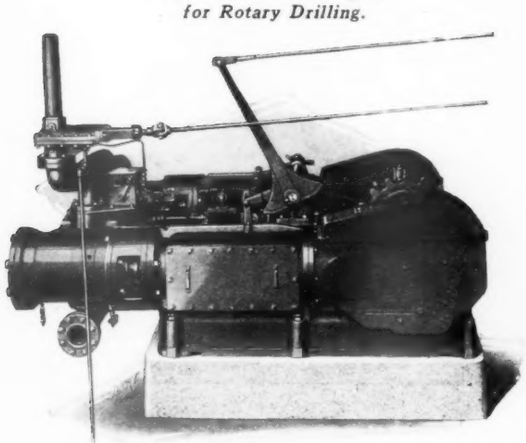

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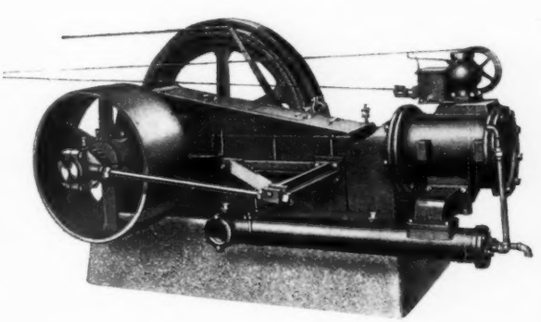

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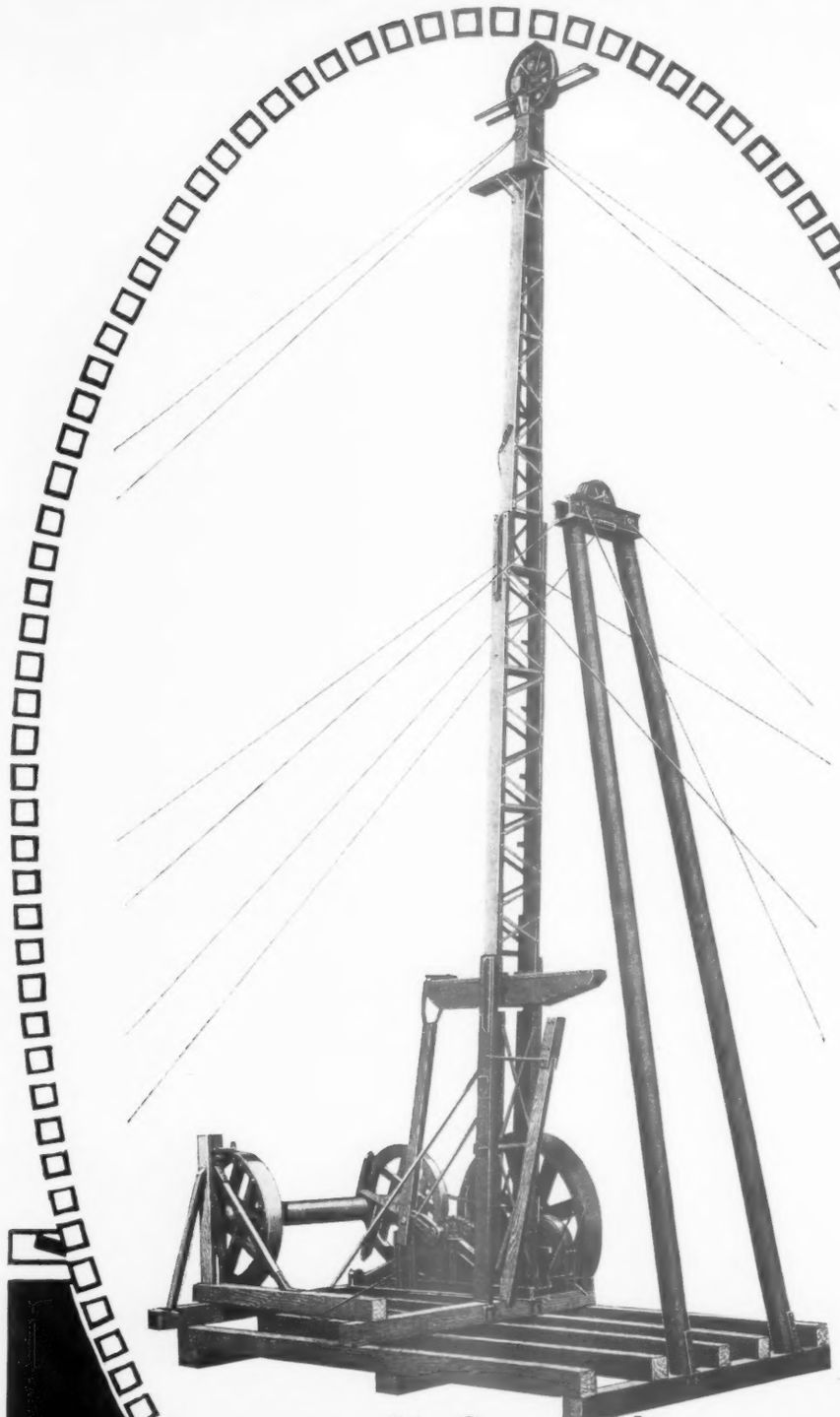

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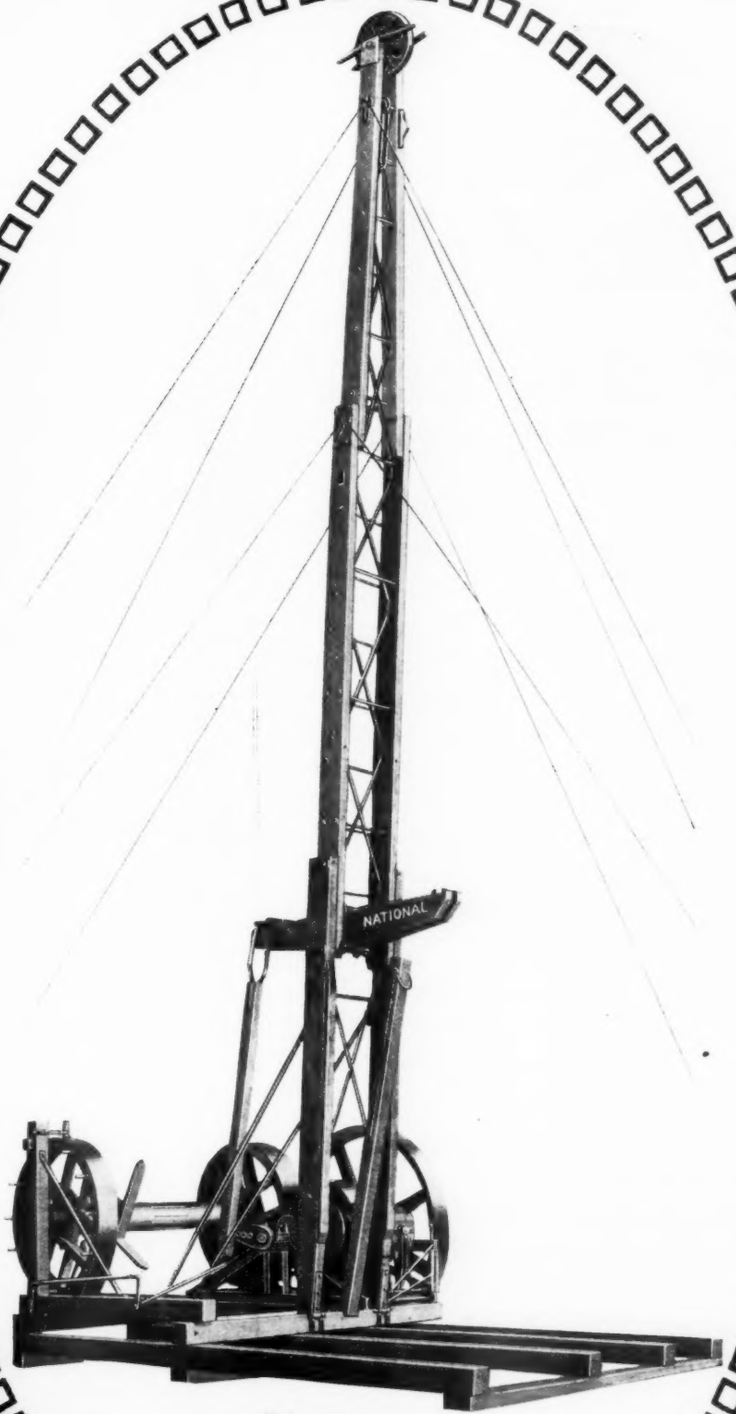

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the greatest reduction in strength when these proportions are exceeded. With the use of more than 2 or 3 per cent of this chemical, the resulting strength is lower than the same mixture without the chemical would have produced.

This further demonstrates the necessity of cautious use of chemical reagents in cementing oil wells where the richest or dryest mixtures are advocated. The careless use of a chemical admixture may completely defeat the purpose for which cement is being used.

Trial Batches

In consideration of all the factors involved it is immediately apparent that trial batches of grout should be made with the cement and acce'erator to be used, and cured in a way that will most nearly approximate the actual condition in the hole. The results noted will determine the practicability of using the reagent to accomplish the desired acceleration of hardening. The theory that if a little bit is advantageous a whole lot is more so, is one that should be removed from the minds of those who use chemical reagents with portland cement.

Chemical accelerators should never be poured into a suction box from which mixed cement grout is drawn by the cementing pumps. This is a very common practice, but it can readily be understood that in the employment of this method, there is no way of regulating the percentage of chemical. Grout in the suction box has been through the mixer. Pouring liquid accelerator into the mixed cement and water is increasing the water-cement ratio, which in turn decreases the ultimate strength and impermeability of the hardened grout. Even if allowances were made for the amount of liquid that would be added at the suction box, the practice is detrimental, for experiments have shown that the chemical does not always thoroughly mix with the grout when it is introduced in this manner. A 5-gallon drum of chemical was colored a deep red and poured into the suction box in the ordinary manner. Samples of the grout were taken after it had gone through the pumps, from a cock near the swedge nipple. After hardening, these samples were broken and the red colored chemical was found to be in streaks throughout the specimens made of the heaviest grout, while in those of thinner mixtures the color was more or less fairly uniform. Chemical admixtures should be added to the water in the supply tank, in calculated proportions that experience will have shown to be advantageous. With this method there will be no detrimental effect of increasing the water content of the grout after it has been mixed.

Water Quality

All tests involving portland cement mentioned have involved the use of water that, in general, was fit for drinking. This is an ideal that should be maintained in oil well cementing. It is appreciated, that it is not always possible to have fresh and drinking water available in oil fields, but every effort should be made to use the cleanest and best water that may be had at the well site.

Cement mixed with saline or foul waters will in all probability harden, but with varying derogatory degrees of hardness and impermeability. During investigations carried on in the Oklahoma and Texas fields, cement was mixed with water from over a hundred different wells and in no case failed to harden. Compression tests of these specimens showed decided low strengths, but the fact remains, the cement did harden.

Cementing an oil well is a highly technical problem and should be superintended by an engineer or other oil company official who is skilled and experienced in the work. Experience has shown that it is highly advisable to have some one on the job with authority to say "So much mixing water and no more." This is in no way meant to be a criticism of the men that may be doing the cementing work whether it is by day labor or under contract. It is human nature that most any man or bunch of men will do a particular piece of work in the easiest manner possible that will be acceptable to the outfit paying them to do it.

Summary

In summarizing it might be said that all cementing processes depend for their success on three fundamental requisites which the operator should fulfill to the best of his ability. These are (1) effective preparation of the hole to receive the grout, (2) thorough mixing of the cement grout in the smallest proportion of water that will give the necessary fluidity, and (3) the selection of a method of depositing the grout that will insure its placement in an unadulterated mass at the location desired.

Frequently experienced men become so accustomed to an oft-repeated piece of work that it is performed mechanically. Thus cement is sometimes mixed with a large excess of water and pumped into a hole that is gassy and is poorly prepared to receive the cement. If the three requirements just mentioned are faithfully met and a standard brand of portland cement is used, the operator has every reason to look for a successful shutoff.

When an accelerator is to be used for the first time with any brand of cement, it is advisable to make a few tests and note the results. If it is necessary to use slightly impure water, similar tests should be made. There will be little opportunity for underground water to interfere seriously with the hardening of the grout, as such water will usually be driven back from the hole in the washing process of circulating mud or water before the cementing process is started. If the precautions outlined in this paper are carefully observed, the speaker is of the opinion that the character of any underground water encountered need not occasion great anxiety.

SOUTHWEST TEXAS

(Continued from Page 49)

feet to north and 150 feet to west lines, is drilling at 725 feet.

Adams Gas Field—Medina

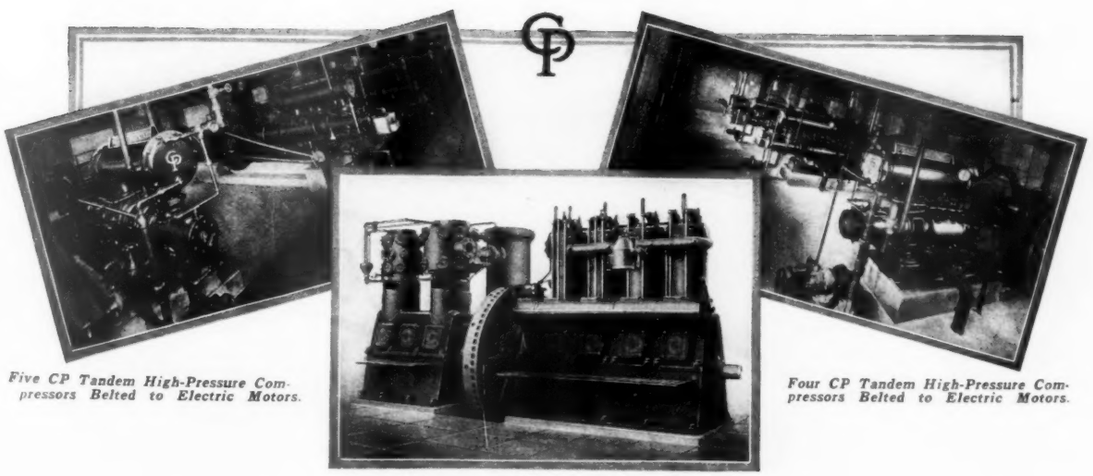
C. E. Lange and Jake Jarmon's No. 1 Adams, Survey 71, at 500 feet to north and west lines, is shut down at 60 feet. Southern Gas Utilities' No. 3 Schmidt, Survey 71, located 1,447 feet to west line and 1,340 feet to south line, at 1,040 feet in sand topped at 1,020 feet tested dry and is drilling deeper. Witherspoon Oil Co.'s No. 6 Nixon, Survey 119, located 2,750 feet to north line, at 230 feet is setting 200 feet of 8-inch casing to shut out surface gas and water at 160 feet.

Refugio Gas Field—Refugio

Coast Gas Co.'s No. 2 Shelly is drilling at 2,100 feet. Houston Oil Co.'s No. 4 Rooke is rigging up to deepen; No. 5 Fanny Heard set 6⅝-inch casing at 2,592 feet and will drill to 3,300-foot sand; No. 8 W. J. J. Heard is drilling in hard sand at 2,453 feet; No. 1 Smith Heard is rigging up to deepen; No. 11 W. J. Heard at 2,587 feet cored hard sand; No. A-2 Rooke is drilling at 2,600 feet. Houston Gulf Gas Co.'s No. 1 Vance producer at 1,600 feet is deepening to 3,300-foot sand; No. 3 W. W. Heard has set surface casing; No. 4 A. W. Heard is drilling at 2,010 feet.

White Point Gas Field—San Patricio

Houston Oil Co.'s No. 1 Humb'e is preparing to drill in; No. 3 Humble has derrick up; No. 4 Humble is drilling in gumbo at 1,910 feet; No. 5 Humble is location; No. 2 Ragsdale has set 12½-inch casing at 453 feet; No. 3 Ragsdale is location. Mission Drilling Co.'s No. 1 Morris is drilling at 1,100 feet; No. 1 Hunter set surface casing at 300 feet; No. 3 Cage is location. Saxet Oil Co.'s No. 1 White Point Development Co. is location; No. 2 White Point Development Co. is drilling in shale at 1,230 feet; No. 8 Rachal is in sand at 2,331-34 feet and is setting casing and test; No. 9 Rachal is drilling at 1,450 feet; No. 10 Richal has set surface casing at 400 feet and is standing; No. 12 Rachal is drilling in at 2,312-16 feet; No. 7 Dunn is location; No. 9 Dunn is location; No. 1 Henry is location; No. 1 Hunter is waiting on water; No. 6 Cage is at 2,360 feet on sand.



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SUMMARY OF CORROSION PROBLEM OF REFINING

(Continued from Page 34)

parently giving satisfaction in some installations.

12. Return bends for the tubular portions of the system show under test conditions of over 130 hours cracking 134,000 bbls. of high corrosive oils that cast steel is superior to drop forgings of the order of one-sixteenth to one-fourth inch, or 4.1.

13. Key type return bends of cast steel using tapered steel forged plugs, have stood up over a year with negligible corrosion taking place.

14. Forge steel return bends corrode rapidly.

15. Cast steel return bends are superior to forge steel in resisting corrosion.

16. Chromium plated and calorized return bends have not given satisfaction so far.

17. Building up a surface of chrome iron upon return bends is being experimented with but no conclusion can be drawn at this time as to its value.

Type of Plugs

18. Plugs of various compositions have been used of the screw tapered type. Cast steel, forged steel, chrome iron, chrome iron nickel, and chromium plated.

19. Proper metals must be used so as not to have an electrical potential set up between the plug and return bend, and set up a "freeze" condition.

20. Chrome iron, chrome iron nickel, have worked out satisfactorily in plants having high corroding conditions.

21. Chrome plated plugs have not worked out satisfactorily as yet due to peeling off of the plate.

22. Field inspection of many reaction chambers which had been subjected to high temperature and pressure conditions while cracking oils showed practically no corrosion over a perior of four years for some vessels, while others showed a corrosion rate of as high as one-sixteenth of an inch per month.

23. Reaction chambers and dephlegmators may be built of steel walls thick enough to permit corroding away, and yet have an ample factor of safety.

24. Lining of chambers with boiler plate or resistant alloys has worked out fairly satisfactorily particularly in limited areas where maximum corrosion takes place. However, it is a difficult matter to obtain a tight joint by welding so that the corrosive gases will not pass behind the liner.

25. Chromium plating of chambers 10 feet by 30 feet presents technical difficulties of first magnitude, yet it has been successfully accomplished and chambers have been in service over a year, and they are resisting corrosion in a remarkable way. Chromium plating apparently has solved the problem of corrosion resistance in large vessels.

26. It may well be that pipe lines, storage tanks and refinery equipment will be chromium plated, in order to resist corrosion as soon as all the technical details have been worked out.

27. There is a desire on the part of some fabricators of steel vessels to build them of chrome iron alloys. This would solve the problem of corrosion. However, the cost would probably be prohibitive—it would be of the order of 10:1 of steel.

28. The building up of alloy metals, by welding with electricity, hydrogen or acetylene, upon the surface of the vessel has promise of working out successfully in resisting corrosion.

29. Service pumps either for co'd or hot oil use no longer give serious trouble due to corrosion. The problems have been solved by the use of proper metals, alloys such as cast steel chrome iron or chrome-nickel-iron.

30. Corrosion of valves has been solved by the use of cast steel forged steels with or without the use of chrome iron, chrome-iron, nickel as part of the valve. Some valves have been fabricated containing 17 per cent of chromium which resist corrosion to a high degree.

31. The use of paints as corrosive resisting material has some promise of success, but is still in the experimental stage. Some paints have real resistance to corrosion. A field inspection of a large chamber, which had some shop letters on the inside, showed it to be highly resistant to corrosion for the letters stood out, while the balance of the chamber wall showed corrosion of from one sixteenth to one-eighth of an inch.

32. Gun spraying of metals or alloys upon surfaces has promise of success with certain type equipment. Commercial tests are going on using aluminum, lead, zinc, monel metal, chrome iron, chrome, nickel, iron upon refinery equipment such as treating equipment, storage tank and parts of distillation equipment. Some show certain advantages dependent upon the type equipment and the use to which it is to be put.

33. Nitralloys have some promise of being useful in resisting corrosion in refinery equipment. It is still in an experimental stage. Some cracking chambers have shown evidence of nitrogenization of the still yielding a very hard surface that drills available would not pierce. This phenomena took place due to nitrogen or nitrogen compounds such as ammonia evolved from the oil.

CARROLL NEW HEAD OF OIL WELL SUPPLY CO.

At a meeting of the board of directors of the Oil Well Supply Co., held December 5, Louis Brown resigned as president of the company and was elected chairman of the board of directors, effective January 15, 1928. Mr. Brown relinquishes his position after 36 years service with the company, the last 16 of which were in the capacity of president. Walter C. Carroll, of Pittsburgh, was elected president to succeed him.

Walter C. Carroll

Mr. Carroll is a graduate of Princeton University of the class of 1900. After two years at Harvard Law School he entered the employ of the American Sheet Steel Co. at Vandergrift, Pa., later the American Sheet & Tin Plate Co., with which he was associated 19 years. During this period he was located in Detroit as district sales manager and in San Francisco and St. Louis as assistant to the manager of sales, subsequently returning to Pittburgh as assistant general manager of sales, which position he held 13 years. In 1921 he became associated with the Inland Steel Co. in Chicago as vice president in charge of sheet steel sales, retaining this position until the present year.

FORMER TULSAN DIES

CHICAGO, Dec. 10.—L. R. Stone, a former resident of Tulsa, Okla., where he represented the George C. Peterson Co. of this city, died at his home here December 8. Mr. Stone had been connected with the Peterson organization for 12 years, lately as one of its sales force.

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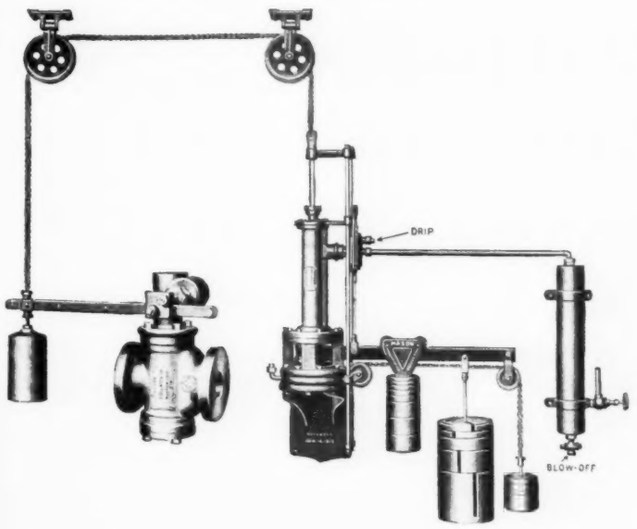

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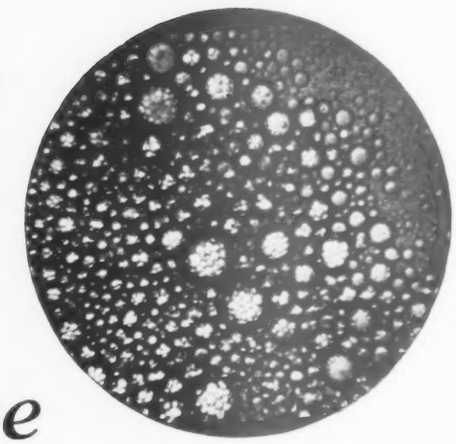

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*Stocks of Oakite Materials are carried in these cities.

OAKITE

TRADE MARK REG U S PAT OFF

Industrial Cleaning Materials and Methods

CANADIAN FIELDS

(Continued from Page 55)

but definite production figures have not been made public. Royalite No. 6, LSD 16, Section 31-19-2w5, has resumed drilling at 3,114 feet after a prolonged shutdown, and is now at 3,141 feet and drilling. Royalite No. 8, LSD 9, Section 12-20-3w5, is rebuilding the derrick recently destroyed by fire. The hole is at 2,630 feet. Royalite No. 9, LSD 6, Section 13-20-3w5, is at 1,841 feet and drilling. Royalite No. 10, NE Section 12-20-3w5, is drilling at 1,305 feet.

Dalhousie Oil Co. No. 1, LSD 4, Section 18-20-2w5, has finished installing the diamond drill outfit used to complete Royalite No. 7, and is drilling out the cement at 4,357 feet. This test is in the top of the Madison limestone. Dalhousie No. 5, LSD 16, Section 30-19-2w5, is at 4,702 feet and drilling. Dalhousie No. 6, LSD 10, Section 13-20-3w5, has finished installing the rotary outfit and is putting in high pressure boilers, preparatory to resuming at 4,517 feet.

Home Oil Co. No. 1, LSD 10, Section 20-19-2w5, is on the Imperial Oil, Ltd., pipe line, though definite production figures have not yet been made pub'ic. Home No. 2, LSD 14, same section, is at 3,142 feet and reported fishing. In the north end of the Turner Valley, Foothills Oil & Gas Co. No. 1, SW Section 26-20-3w5, is at 3,496 feet, and pulling on the drill pipe.

Illinois-Alberta Oil & Refining Co. No. 1, LSD 14, Section 12-20-3w5, has reported for November a daily production of 104.5 bbls. of 73-degree crude naphtha, an appreciable increase over the average summer production. Illinois-Alberta No. 2, same LSD, is at 862 feet and drilling.

Stockmen Oils Complete Well

Stockmen Oils No. 1, LSD 1-2, Section 27-20-3w5, is repairing boilers preparatory to turning steam on the burning gasser. The well is making close to 3,000,000 feet a day of wet gas from a shallow horizon at 1,560 feet, and will be finished at this depth, after drilling to 4,550 feet.

New McDougall Segur No. 1, LSD 14, Section 12-20-3w5, is making a settled production around 45 bbls. a day; and No. 2, same LSD, is making 80 bbls. The production is a light crude from the Dakota sand. Tubing is being pulled from No. 1 owing to some trouble with paraffin. No. 3, same LSD, has derrick practically completed.

Spooner Oils No. 1, LSD 12, Section 13-20-3w5, is reported drilling at 4,810 feet in a very hard limestone, with about 1,000,000 feet of wet gas per day. Vulcan No. 2, LSD 11, same section, is drilling at 3,980 feet and apparently in the Fernie shales.

Calmont Oils, LSD 2, Section 1-20-3w5, is drilling at 4,270 feet and carrying the casing down right behind the drill. Okalta Oils, LSD 1, Section 1-20-3w5, is at 4,320 feet and drilling. Sentinel Oils, Section 8-20-2w5, is drilling at 3,105 feet, after casing off a fair show of gas encountered at 2,800 feet. Great West Oils No. 1, SE Section 7-20-2w5, is shut down at 5,370 feet.

Advance Oil Co. LSD 16, Section 19-19-2w5, has run up a new derrick to replace the one wrecked by wind, and is installing the machinery. The test should spud in by December 15.

In the Highwood district, southern foothills, Imperial Oil, Ltd., Highwood No. 1, LSD 3, Section 36-18-3w5, is reported at 3,542 feet and drilling, after delay on account of a fishing job.

In the Morley Indian Reserve area, Wabash Oils, Ltd., is installing a new outfit to continue its test, shut down around 300 feet. The rig from the old Cherokee well in the Moose Mountain Field was moved across country to Cochrane, where it was loaded and shipped to the Morley Reserve.

In the Moose Mountain Field, Cherokee Oils, LSD 7-8, Section 33-23-5w5, has been temporarily shut down, while the outfit is used to finish the Wabash test. The only test now active in the Moose Mountain area is Signal Hill Oil Co. No. 2, LSD 9, Section 34-23-5w5. This test is at 1,675 feet and shut down waiting for repairs to a broken underreamer. Casing has been run to 1,494 feet and will be continued to the bottom of the hole. At 1,480 feet the drill encountered a show of oil. A producing horizon is looked for around 1,810 feet.

Interesting Test Started

An interesting test is being started by Paramount Oils, Ltd., in LSD 2, Section 29-19-4w5. The location is on a structure west and a little south of the Turner Valley Field. Derrick foundations and cellar were constructed last summer, and the camp buildings are now up, and drilling equipment has been ordered.

In the Irma-Wainwright Field, east central Alberta, drilling operations are reported generally at a standstill owing to severe weather. At a meeting held at Wainwright recently, plans were made for the reorganization of the Wainwright-Dome Oil Co. Under the reorganization plan the interests taking over the company will assume all legal liabilities and call in the stock, issuing new stock on the basis of one share for each dollar actually invested. Directors were elected as follows: Dr. C. D. McKenzie, Fort Frances, Ontario; Dr. B. Osborne, J. Lloyd, R. Fraser, G. Stethem, International Falls, Minn. The Wainwright-Dome holdings are in the Wainwright Field, close to proven production.

On the Ribstone-Blackfoot structure, east of the Wainwright Field, a fire at the London-Ribstone well, LSD 14, Section 10-43-28w3, destroyed the bunkhouse and contents. The derrick and drilling outfit were undamaged. The test is reported drilling below 1,000 feet. Ribstone Oils, LSD 1, Section 1-46-1w4, is reported shut down at 1,925 feet owing to weather conditions.

In the Redcliffe section of the Medicine Hat Field, C. C. Duffield is down 1,175 feet with a test for gas being drilled for the Redcliffe Pressed Brick Co. The test will finish in the Medicine Hat sand around 1,200 feet.

In the Pincher Creek district, southwestern Alberta, Mount Royal Oil & Gas Co., LSD 4, Section 7-6-1w5, is reported drilling around 1,000 feet.

Owing to a break in the Canadian Western Natural Gas Co.'s 10-inch main gas line from the Turner Valley on November 29, the city of Calgary was compelled to draw temporarily from the Foremost Field, and the 6-inch emergency line connecting with the Turner Valley Field was also put into operation. The break in the 10-inch line was speedily repaired.

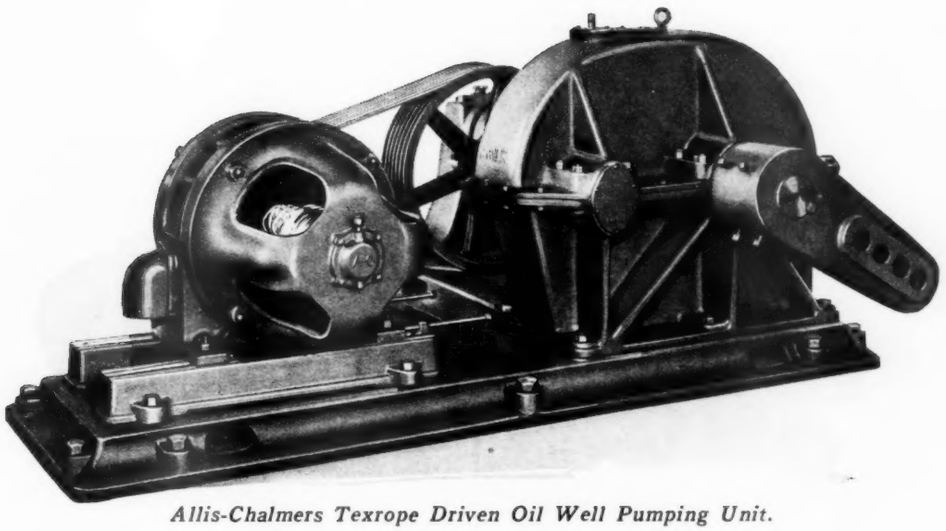
In the province of Saskatchewan, drilling operations are being pretty generally discontinued for the season. Big Six Oil Co. No. 3, LSD 16, Section 18-29-2w3, south of Kenaston, has been shut down for the winter after drilling 81 feet. The first water was shut off at 50 feet and the second water was struck at 65 feet. After deepening the well a little further severe weather compelled a shut down. In the Simpson district, the Simpson Oil Co., Section 9-29-26w2, is also shut down till the spring. An oil showing was reported around 1,400 feet, following which the 6¾-inch casing was run to the bottom of the hole preparatory to a production test, which could not be completed owing to weather conditions. Drilling, which is in charge of Robert Denne, will resume as early as possible in the spring.

In Dawn Township, Lambton County, Ontario, Union Natural Gas Co.'s No. 20, on the L. Wicks farm, west of No. 1 McDermid, is reported drilling around 1,300 feet.

In the old Tilbury Field, Kent County, Union Natural Gas Co.'s No. 278, Radmor farm, Romney Township, is drilling around 500 feet. Union's No. 279, Shanks farm, has started drilling. Both are tests of the Tilbury sand for gas.

In Dover Township, Kent County, Ajax Oil & Gas Co., on the Reaume farm, is reported down 1,860 feet on a test of the Trenton limestone, and shut down waiting for a new line.

It is reported that a test near St. Clair, Mich., on the St. Clair River, has secured a commercial gas production.



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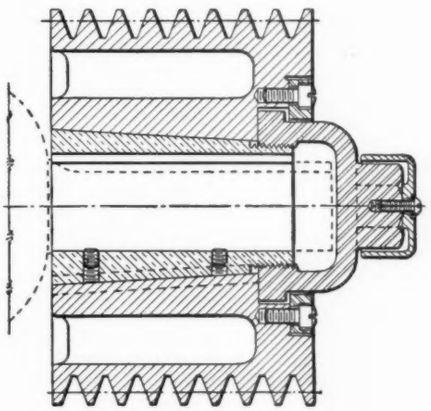

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ONLY 9 OPERATIONS IN EAST CENTRAL TEXAS

MEXIA Tex., Dec. 11.—Only nine wells remain in the drilling class in the East Central Texas Field where once hundreds of wells were in search of oil, and where production rose to record breaking figures. Two tests in Anderson County, one in Cherokee, two in Freestone, three in Limestone and one in Smith tell the story of present day exploration work. All the pools in the area are completely drilled up. Unless the present handful of drilling wells produce a real oil-producing well it is likely that the area will be forgotten until market prices of crude warrant the testing of the numerous salt dome indications developed within the past year by the use of scientific instruments.

In Anderson County, the Humble Oil & Refining Co. was below 3,825 feet in No. 3 Spencer Clemmons, Benson Survey, and below 3,650 feet in No. 1 T. H. Jones, A. D. Roberts Survey. In Cherokee County the same company was drilling below 3,940 feet in No. 1 Elliott & Clarke which it is deepening.

In Freestone County, the Orbit Oil Co. cored salt with a showing of oil at 3,464 feet and the operation is shut down. It bailed salt water with a very slight showing of oil at 3,309 feet. The Roxana Petroleum Corp.'s No. 1 Thiele, Texas Central Railroad Survey, was drilling below 1,350 feet.

In Limestone County, Reiter, Hicks & Hoover's No. 1 Val De Long, Varella Survey, was drilling in lime and shale at 3,078 feet. C. W. Harrison and others' No. 1 Williams, Varella Survey, was shut down at 2,000 feet. Dillon & Hammond's No. 1 Fenner, Hoskins Survey was shut down at 2,931 feet.

In Smith County, Gaither and others were shut down at 3,010 feet in No. 1 Parker, Quevedo grant.

COMMITTEE OF NINE ASKS SUGGESTIONS

(Continued from Page 33)

from the standpoint of the Navy to be without oil.

Secretary of War Davis spoke of oil conservation for the Army in which respect he said it had an important bearing on national defense.

Probably petroleum means more to the Navy than it does to the Army, he said, but it has an important relation to all strategical developments on land as well as on sea.

"You may be interested in the fact," said Secretary Davis, "that all the nations of the world, including our own, are studying the new methods of transportation developed in the war. The question of tanks and various other forms of transportation are being looked into. All the work of moving the troops is involved and trucks and tanks, large and small, are replacing so far as we can man power which gives increased facility in the conduct of such work. So oil is becoming of greater importance in various lines of national defense. We are studying its effect on future strategy in war and it will have a great effect on history. None of us wishes to see war come to our people but we have to consider this problem if war should be forced upon us. So you can see that the work of this committee will be an important factor in our modern methods of making war."

Secretary Hoover's Comment

Secretary Hoover remarked that he is aware of the fact that the petroleum industry is earnestly reaching out for some method to improve the production of oil and he knew that it involved great problems of national conservation and that the industry is co-operating in the whole movement.

"We are all of us directly interested in the solution of this problem" he said. "I have welcomed the appointment of this committee by Secretary Work as the bringing together of different points of view which will do much to solve the problem.

"I notice that the American Petroleum Institute has adopted vigorous resolutions on this subject of conservation and that the enormous waste is deplored in more vigorous terms than have been used in the past," said Mr. Hoover.

The secretary hoped that some practical means could be effected so that efforts to bring about satisfactory results would not land them "up a blind alley."

Former Senator Long, chairman of the Bar Association committee, explained the action that had been taken by that committee which was in session practically all of the previous day. He then announced the names of those who have been selected from the minerals section to serve on the Committee of Nine and said:

"Our three representatives will act under the restrictions and limitations of the resolution of the mineral law section appointing our committee and the resolution of our committee appointing our three representatives which provided these representatives of the mineral section committee before giving approval to any measure, shall refer the same to this mineral section committee for its consideration and determination."

As the resolutions limiting the powers of the Bar Association were read Secretary Work remarked that he was glad "to see this committee has thoroughly protected itself from any commitment." However, he assumed that they would diligently apply themselves to the work of the committee and give it their best thought.

"We know they are responsible for intelligent effort and will help to solve this problem," he said.

Director George Otis Smith of the United States Geological Survey; H. H. Hill, chief of the petroleum division, Bureau of Mines, and Rear Admiral Rousseau all briefly expressed their readiness to promote the work of the committee.

Mark L. Requa upon being called upon said that the events of the past few years had convinced him of his original belief in the necessity for the conservation of petroleum. He believed the recovery of oil could be improved and that this committee would work to that end.

Among those who were present at the meeting were all of the nine members of the committee appointed by the moneral section of the bar association as follows: Chairman, Chester I. Long, Washington, D. C.; James A. Veasey, Tulsa, Okla.; Warren Olney, Jr., San Francisco, Calif.; James W. Finley, Bartlesville, Okla.; F. C. Proctor, Houston, Tex.; Henry M. Bates, University of Michigan, Ann Arbor, Mich.; Paul M. Gregg, Los Angeles, Calif.; Clarence E. Martin, Martinsburg, W. Va., and John P. Gray, Coour D'Alene, Idaho.

Among others present were J. Edgar Pew and W. S. Farish.

Committee Sets Hearings

At the conclusion of the meeting of the oil board, the Committee of Nine met and elected Henry M. Bates of the University of Michigan chairman, Assistant Secretary Finney vice chairman and E. S. Rochester, secretary.

The Committee of Nine adopted the following resolutions:

Resolved, That this committee will welcome all constructive suggestions that may be offered by persons within or without the petroleum industry, relative to the conservation of gas and oil and the maintenance of ground reserves thereof, and accordingly it is further resolved that the committee invite such suggestions, in writing, in that regard to be sent to the secretary of the committee, E. S. Rochester, at Room 5139, Interior Building, Washington, D. C., at any time prior to January 10, 1928, and that commencing January 23, 1928, will conduct public hearings for the purpose of developing the views of such persons as may wish to present suggestions orally. All persons desiring to be heard orally are requested to submit the substance of their proposals and suggestions in writing to the secretary at the above address prior to January 10, 1928. The hearings will be held in the Interior Department Building.

PETROLEUM STATISTICS, OCTOBER, 1927

(Continued from Page 72)

ANALYSIS OF SUPPLY AND DEMAND OF ALL OILS

(Including wax, coke and asphalt in thousands of barrels of 42 U. S. gallons)

	Sept., 1927	Oct., 1927	Oct., 1926	Jan.-Oct., 1927	Jan.-Oct., 1926
New supply:					
Domestic production:					
Crude petroleum:					
Light	66,247	68,037	57,422	652,987	515,786
Heavy	8,834	9,044	12,242	93,562	112,572
Total crude	75,081	77,081	69,664	746,549	628,358
Natural-gas gasoline	3,245	3,419	2,907	31,829	26,238
Benzol	210	217	181	2,146	1,757
Total	78,536	80,717	72,752	780,524	656,353
Daily average	2,618	2,604	2,347	2,568	2,159
Excess of daily average domestic production over domestic demand	203	367	98	386	30
Imports:					
Crude	5,122	4,633	3,860	46,608	50,352
Refined	868	1,041	1,765	11,438	18,001
Total new supply all oils	84,526	86,391	78,377	838,570	724,706
Daily average	2,818	2,787	2,528	2,758	2,384
Change in stocks all oils	1,134	4,048	5	57,330	*29,239
Demand:					
Total demand	83,392	82,343	78,372	781,240	753,945
Daily average	2,780	2,656	2,528	2,570	2,480
Exports†:					
Crude	1,297	1,539	1,010	12,846	12,780
Refined	9,649	11,458	7,630	105,192	93,888
Domestic demand	72,446	69,346	69,732	663,202	647,277
Daily average	2,415	2,237	2,249	2,182	2,129
Stocks (end of month):					
Crude:					
East of California‡:					
Light	291,581	297,263	222,137	297,263	222,137
Heavy	48,160	48,094	55,310	48,094	55,310
California:					
Light	22,795	21,609	30,390	21,609	30,390
Heavy§	92,186	91,858	87,529	91,858	87,529
Total crude	454,722	458,824	395,366	458,824	395,366
Natural-gas gasoline at plants	736	781	488	781	488
Total refined	117,921	117,822	119,768	117,822	119,768
Grand total stocks all oils	573,379	577,427	515,622	577,427	515,622
Bunker oil (included above in domestic demand)	4,436	4,594	4,330	41,676	38,643

*Decrease. †Includes shipments to noncontiguous territories. ‡Exclusive of producers' stocks. §Includes fuel oil.

PRODUCTION OF CRUDE PETROLEUM BY FIELDS AND STATES WITH CLASSIFICATION BY GRAVITY

(Barrels of 42 U. S. gallons)

	Sept., 1927 Total	Sept., 1927 Dy.av.	Oct., 1927 Total	Oct., 1927 Dy.av.	Jan.-Oct., 1927	Jan.-Oct., 1926*
Field:						
Appalachian	2,585,000	86,200	2,589,000	83,500	25,492,000	23,744,000
Lima-Indiana	153,000	5,100	153,000	5,000	1,573,000	1,728,000
Michigan	38,000	1,200	38,000	1,200	369,000	48,000
Illinois, S. W. Indiana	689,000	23,000	621,000	20,000	6,531,000	7,056,000
Mid-Continent	46,314,000	1,543,800	47,910,000	1,545,500	451,982,000	343,396,000
Gulf Coast	3,844,060	131,500	4,023,000	129,800	41,871,000	34,813,000
Rocky Mountain	2,293,000	76,400	2,298,000	74,100	25,434,000	32,544,000
California	19,065,000	635,500	19,449,000	627,400	193,297,000	185,029,000
United States total	75,081,000	2,502,700	77,081,000	2,486,500	746,549,000	628,358,000
State:						
Arkansas	3,111,000	103,700	3,165,000	102,100	34,449,000	50,005,000
California	19,065,000	635,500	19,449,000	627,400	193,297,000	185,029,000
Colorado	208,000	6,900	217,000	7,000	2,351,000	2,291,000
Illinois	625,000	20,800	555,000	17,900	5,534,000	b. 12,000
Indiana	74,000	2,500	75,000	2,400	706,000	673,000
Southwestern	64,000	2,200	66,000	2,100	597,000	543,000
Northeastern	10,000	300	9,000	300	109,000	130,000
Kansas	3,229,000	107,700	3,313,000	106,900	34,216,000	34,453,000
Kentucky	587,000	19,600	590,000	19,000	5,594,000	5,237,000
Louisiana	1,761,000	58,700	1,745,000	56,300	17,706,000	19,389,000
Gulf Coast	242,000	8,100	234,000	7,600	2,531,000	3,499,000
Rest of State	1,519,000	50,600	1,511,000	48,700	15,175,000	15,889,000
Michigan	38,000	1,200	38,000	1,200	369,000	48,000
Montana	415,000	13,800	404,000	13,000	4,342,000	6,885,000
New Mexico	72,000	2,400	64,000	2,100	1,046,000	1,338,000
New York	192,000	6,400	189,000	6,100	1,861,000	1,617,000
Ohio	630,000	21,000	622,000	20,100	6,374,000	6,070,000
Central and Eastern	487,000	16,200	478,000	15,400	4,910,000	4,472,000
Northwestern	143,000	4,800	144,000	4,700	1,464,000	1,598,000
Oklahoma	24,366,000	812,200	24,810,000	800,300	231,276,000	144,515,000
Osage County	1,740,000	58,000	1,789,000	57,700	19,788,000	21,035,000
Rest of State	22,626,000	754,200	23,021,000	742,600	211,293,000	123,480,000
Pennsylvania	813,000	27,100	826,000	26,700	8,014,000	7,444,000
Tennessee	5,000	200	6,000	200	50,000	36,000
Texas	17,791,000	593,000	18,900,000	609,700	176,206,000	129,847,000
Gulf Coast	3,702,000	123,400	3,789,000	122,200	39,340,000	31,311,000
Rest of State	14,098,000	469,500	15,111,000	487,500	136,866,000	98,533,000
West Virginia	501,000	16,700	500,000	16,100	5,054,000	4,938,000
Wyoming	1,598,000	53,300	1,613,000	52,000	17,694,000	22,072,000
Salt Creek	985,000	32,800	1,004,000	32,400	12,006,000	15,480,000
Rest of State	613,000	20,500	609,000	19,600	5,688,000	6,542,000
Classification by gravity (approx.):						
Light crude	66,247,000	2,208,200	68,037,000	2,194,800	652,987,000	515,786,000
Heavy crude	8,834,000	294,500	9,044,000	291,700	93,563,000	112,572,000

*Final figures; total includes 3,300,000 bbls. consumed on leases, etc., not included in 1927 figures.

GASOLINE PRODUCTION BY THE VARIOUS METHODS—OCTOBER, 1927

(Barrels)

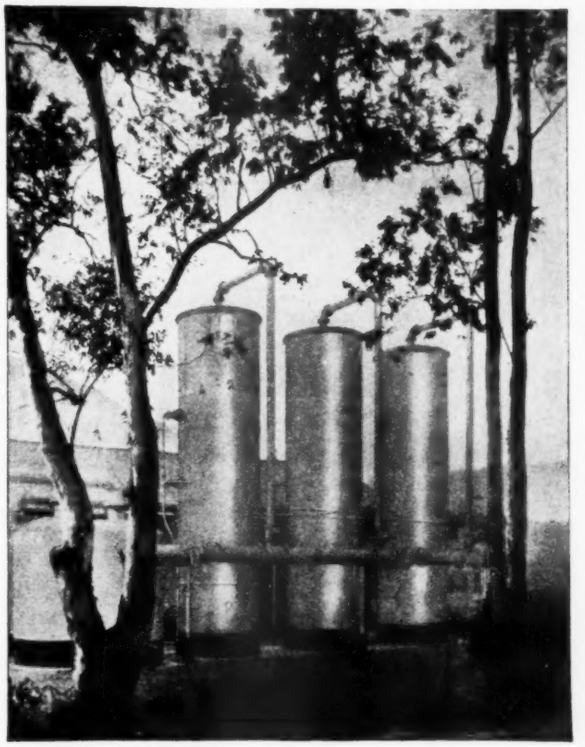
	Straight run	%	Cracked	%	Natural-gas gasoline	%	Total
East Coast	2,530,000	59	1,564,000	36	198,000	5	4,292,000
Appalachian	801,000	72	250,000	23	59,000	5	1,110,000
Indiana, Illinois, etc.	1,942,000	51	1,603,000	44	185,000	5	3,820,000
Oklahoma, Kansas, etc.	2,956,000	60	1,584,000	32	397,000	8	4,937,000
Texas	2,988,000	49	2,487,000	41	589,000	10	6,064,000
Louisiana and Arkansas	1,084,000	49	678,000	31	439,000	20	2,201,000
Rocky Mountain	582,000	53	413,000	37	109,000	10	1,104,000
California	4,051,000	75	366,000	7	*958,000	18	5,375,000
United States total	16,934,000	59	9,035,000	31	2,934,000	10	28,903,000
United States total, 9/27	16,726,000	60	8,314,000	30	2,676,000	10	27,716,000
Gulf Coasts	2,926,000	45	2,741,000	42	862,000	13	6,529,000

*Includes natural-gas gasoline run through pipe lines.

SHIPMENTS OF OIL FROM CALIFORNIA TO EASTERN PORTS IN UNITED STATES VIA PANAMA CANAL (BARRELS)

	September, 1927	October, 1927	Jan.-Oct., 1927	Jan.-Oct., 1926*
Crude oil	818,000	844,000	8,941,000	10,264,000
Refined products	2,564,000	1,571,000	19,995,000	19,042,000
Gasoline	1,046,000	984,000	9,801,000	6,818,000
Tops	.....	.....	.....	224,000
Gas oil	457,000	154,000	3,104,000	4,709,000
Fuel oil	1,060,000	363,000	6,805,000	6,803,000
Lubricants	1,000	70,000	285,000	488,000

*Final figures.



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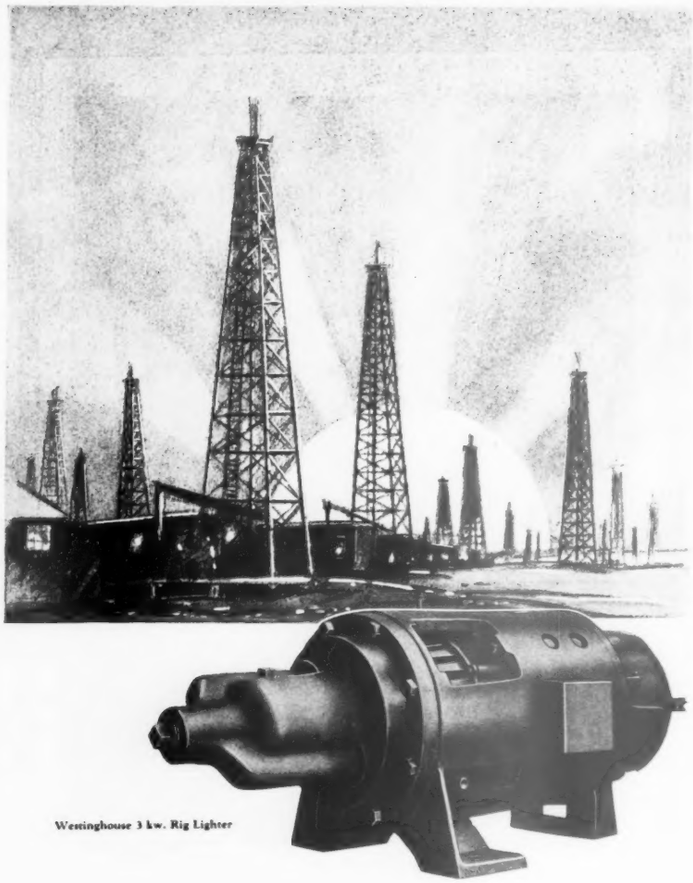

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Rig Lighter

RUNS TO STILLS AND OUTPUT OF REFINERIES IN THE UNITED STATES, OCTOBER, 1927

	Crude oil—Domestic	Crude oil—Foreign	Unfinished oils	Natural-gas gasoline	Total oils run to stills (bbls.)
East Coast	9,235,000	4,670,000	640,000	198,000	14,743,000
Appalachian	2,650,000	.....	117,000	59,000	2,826,000
Indiana, Illinois, etc.	6,504,000	.....	431,000	185,000	7,120,000
Oklahoma, Kansas, etc.	8,856,000	.....	288,000	397,000	9,541,000
Texas	14,643,000	42,000	641,000	589,000	15,916,000
Louisiana and Arkansas	5,237,000	525,000	153,000	439,000	6,354,000
Rocky Mountain	1,866,000	.....	532,000	109,000	2,507,000
California	17,912,000	.....	*495,000	748,000	19,156,000
United States total	66,903,000	5,238,000	3,297,000	2,725,000	78,163,000
Daily average, 10/27	2,158,200	169,000	106,300	87,900	2,521,400
Daily average, 9/27	2,146,700	146,300	122,300	82,400	2,497,700
Texas Gulf Coast	11,488,000	43,000	603,000	502,000	12,646,000
Louisiana Gulf Coast	3,720,000	525,000	24,000	360,000	4,629,000

Output and losses—	Gasoline (bbls.)	Kerosene (bbls.)	Gas oil and fuel oil (bbls.)	Lubricants (bbls.)	Wax (lbs.)
East Coast	4,292,000	915,000	6,878,000	945,000	19,487,000
Appalachian	1,110,000	322,000	700,000	418,000	8,254,000
Indiana, Illinois, etc.	3,820,000	443,000	1,926,000	290,000	4,873,000
Oklahoma, Kansas, etc.	4,937,000	836,000	2,904,000	197,000	3,896,000
Texas	6,064,000	1,329,000	6,294,000	636,000	6,367,000
Louisiana and Arkansas	2,291,000	448,000	2,491,000	36,000	3,641,000
Rocky Mountain	1,164,000	161,000	625,000	50,000	2,958,000
California	5,375,000	430,000	12,127,000	185,000	.....
United States total	28,903,000	4,884,000	34,045,000	2,757,000	†49,476,000
Daily average, 10/27	932,400	157,500	1,098,200	88,900	1,596,000
Daily average, 9/27	923,900	156,200	1,078,000	92,700	1,596,300
Texas Gulf Coast	4,789,000	1,101,000	4,978,000	603,000	6,055,000
Louisiana Gulf Coast	1,740,000	400,000	1,442,000	36,000	3,641,000

Output and losses (cont.)—	Coke (tons)	Asphalt (tons)	Other finished products (bbls.)	Unfinished products (bbls.)	Losses (bbls.)
East Coast	11,400	170,300	89,000	39,000	523,000
Appalachian	2,000	.....	29,000	64,000	142,000
Indiana, Illinois, etc.	27,100	29,500	109,000	50,000	163,000
Oklahoma, Kansas, etc.	21,000	400	58,000	46,000	434,000
Texas	21,000	21,600	3,000	593,000	663,000
Louisiana and Arkansas	12,300	51,200	133,000	558,000	132,000
Rocky Mountain	6,800	1,300	21,000	423,000	60,000
California	.....	58,300	221,000	*204,000	288,000
United States total	†101,600	†332,600	663,000	1,977,000	2,405,000
Daily average, 10/27	3,300	10,700	21,400	63,800	77,600
Daily average, 9/27	3,250	11,100	21,100	60,400	81,300
Texas Gulf Coast	18,400	21,600	.....	398,000	556,000
Louisiana Gulf Coast	11,500	49,800	128,000	488,000	55,000

*Includes 364,000 bbls. net tops rerun. †Wax, coke, and asphalt equivalent to 279.5 pounds per barrel and 5.08 and 5.52 bbls. per ton, respectively.

IMPORTS AND EXPORTS OF CRUDE PETROLEUM (BARRELS)

(From Bureau of Foreign & Domestic Commerce)

	September, 1927—Total	September, 1927—Daily Av.	October, 1927—Total	October, 1927—Daily Av.	Jan.-Oct., 1927	Jan.-Oct., 1926*
Imports	5,122,000	170,700	4,633,000	149,500	46,608,000	50,352,000
From Mexico	2,234,000	74,400	1,503,000	48,500	22,828,000	35,229,000
From Venezuela	1,759,000	58,600	2,260,000	72,900	15,074,000	9,647,000
From Colombia	764,000	25,500	797,000	25,700	6,169,000	1,799,000
From other countries	365,000	12,200	73,000	2,400	2,546,000	3,677,000
Exports	1,297,000	43,200	1,539,000	49,600	12,846,000	12,780,000
Domestic crude oil:						
To Canada	1,038,000	34,600	1,271,000	41,000	10,626,000	10,732,000
To other countries	259,000	8,600	268,000	8,600	2,220,000	2,047,000
Foreign crude oil	.....	.....	.....	.....	.....	1,000

Note: No shipments to territories during October.

INDICATED DELIVERIES OF CRUDE PETROLEUM, EXCLUSIVE OF CALIFORNIA GRADES, TO DOMESTIC CONSUMERS (BARRELS)

	September, 1927—Total	September, 1927—Daily Av.	October, 1927—Total	October, 1927—Daily Av.	Jan.-Oct., 1927	Jan.-Oct., 1926*
Domestic petroleum by fields of origin:						
Appalachian	2,856,000	95,200	2,823,000	91,100	25,649,000	24,449,000
Lima-Indiana	92,000	3,100	83,000	2,700	1,162,000	2,000,000
Michigan	38,300	1,300	38,000	1,200	369,000	48,000
Ill. & S. W. Ind.	760,000	25,300	634,000	20,400	6,201,000	6,016,000
Mid-Continent	40,450,000	1,348,300	42,515,000	1,371,400	385,495,000	369,608,000
Gulf Coast	3,803,000	126,800	4,110,000	132,600	44,223,000	34,639,000
Rocky Mountain	2,109,000	70,300	2,216,000	71,500	25,828,000	32,198,000
Deliveries and exports	50,108,000	1,670,300	52,419,000	1,690,900	488,927,000	468,958,000
Deliveries	49,229,000	1,641,000	51,305,000	1,655,000	480,431,000	460,656,000
Foreign petroleum	5,145,000	171,500	4,571,000	147,500	46,919,000	50,150,000
Deliveries of domestic and foreign petrol'm	54,374,000	1,812,500	55,876,000	1,802,500	527,350,000	510,808,000

COMPARATIVE ANALYSES

(Thousands of barrels of 42 U. S. gallons.)

	Product'n*—Total	Product'n*—Dy. Av.	Imports†—Total	Imports†—Dy. Av.	Exports†—Total	Exports†—Dy. Av.	Stocks End of Period	Dom. Demand Total	Dom. Demand Dy. Av.
Crude petroleum:									
September, 1927	68,789	2,293	5,122	171	1,297	43	‡362,536	.....	...
October, 1927	72,141	2,327	4,633	149	1,539	50	‡366,966	.....	...
Jan.-Oct., 1927	691,552	2,275	46,608	153	12,846	42	‡366,966	.....	...
October, 1926	68,907	2,223	3,860	125	1,010	33	‡307,837	.....	...
Jan.-Oct., 1926	642,139	2,112	50,352	166	12,780	42	‡307,837	.....	...
Gasoline:									
September, 1927	27,716	924	515	17	3,539	118	29,738	28,409	947
October, 1927	28,903	932	365	12	3,959	128	29,550	25,497	822
Jan.-Oct., 1927	273,597	900	4,304	14	37,564	124	29,550	249,810	822
October, 1926	26,337	850	844	27	2,783	90	33,712	23,943	772
Jan.-Oct., 1926	245,991	809	4,632	15	36,066	119	33,712	219,720	722
Kerosene:									
September, 1927	4,686	156	.....	...	1,659	55	8,120	3,280	109
October, 1927	4,884	158	1	...	2,211	71	7,325	3,469	112
Jan.-Oct., 1927	46,421	153	13	...	16,422	54	7,325	31,262	103
October, 1926	5,126	165	3	...	1,905	61	8,238	3,148	102
Jan.-Oct., 1926	51,612	168	74	...	18,372	60	8,238	31,597	104
Lubricants:									
September, 1927	2,782	93	.....	...	861	29	7,447	1,965	66
October, 1927	2,757	89	1	...	839	27	7,584	1,782	57
Jan.-Oct., 1927	26,442	87	7	...	8,210	27	7,584	18,232	60
October, 1926	2,768	89	2	...	705	23	7,437	1,777	57
Jan.-Oct., 1926	26,870	88	31	...	7,697	25	7,437	19,020	63
Wax (thous. of pounds):									
September, 1927	47,888	1,596	3,040	101	31,780	1,059	170,172	29,621	987
October, 1927	49,476	1,596	887	29	28,342	914	170,367	21,826	704
Jan.-Oct., 1927	482,162	1,586	15,424	51	276,226	909	170,367	236,324	777
October, 1926	56,011	1,807	1,384	45	28,744	927	167,925	20,505	661
Jan.-Oct., 1926	535,162	1,760	8,120	27	281,787	927	167,925	209,961	691
Gas oil and fuel oil:									
September, 1927	32,339	1,078	341	11	3,258	109	§123,817	.....	...
October, 1927	34,045	1,098	667	22	4,206	136	§125,049	.....	...
Jan.-Oct., 1927	326,719	1,075	6,968	23	39,498	130	§125,049	.....	...
October, 1926	32,444	1,047	858	28	2,015	65	§113,905	.....	...
Jan.-Oct., 1926	300,195	987	12,557	41	29,562	97	§113,905	.....	...

*Figures in this column for crude petroleum are runs to stills. †From Bureau of Foreign & Domestic Commerce, subject to revision. Exports, except for wax, include shipments to Alaska, Hawaii and Porto Rico. ‡Includes California light. §Includes California heavy.

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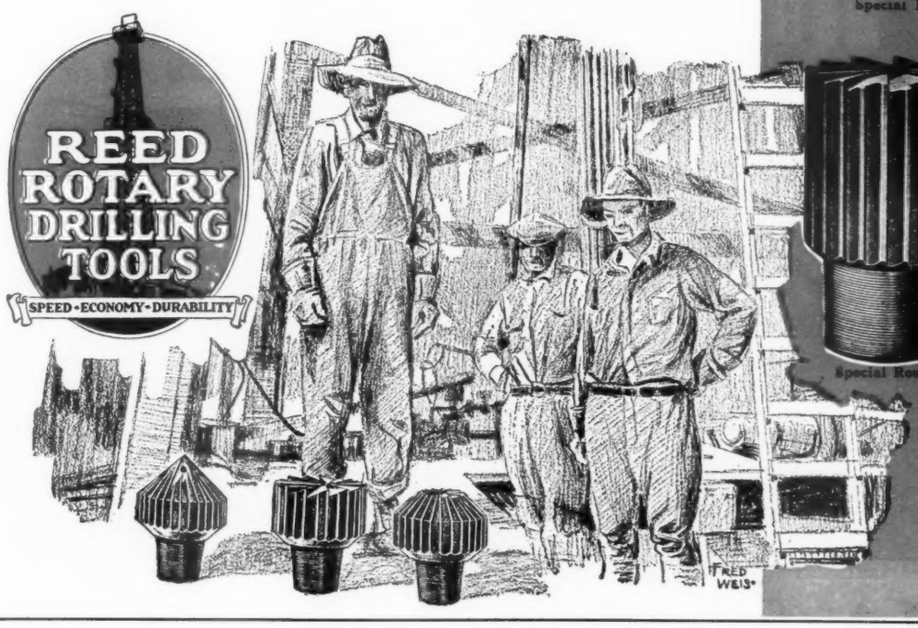

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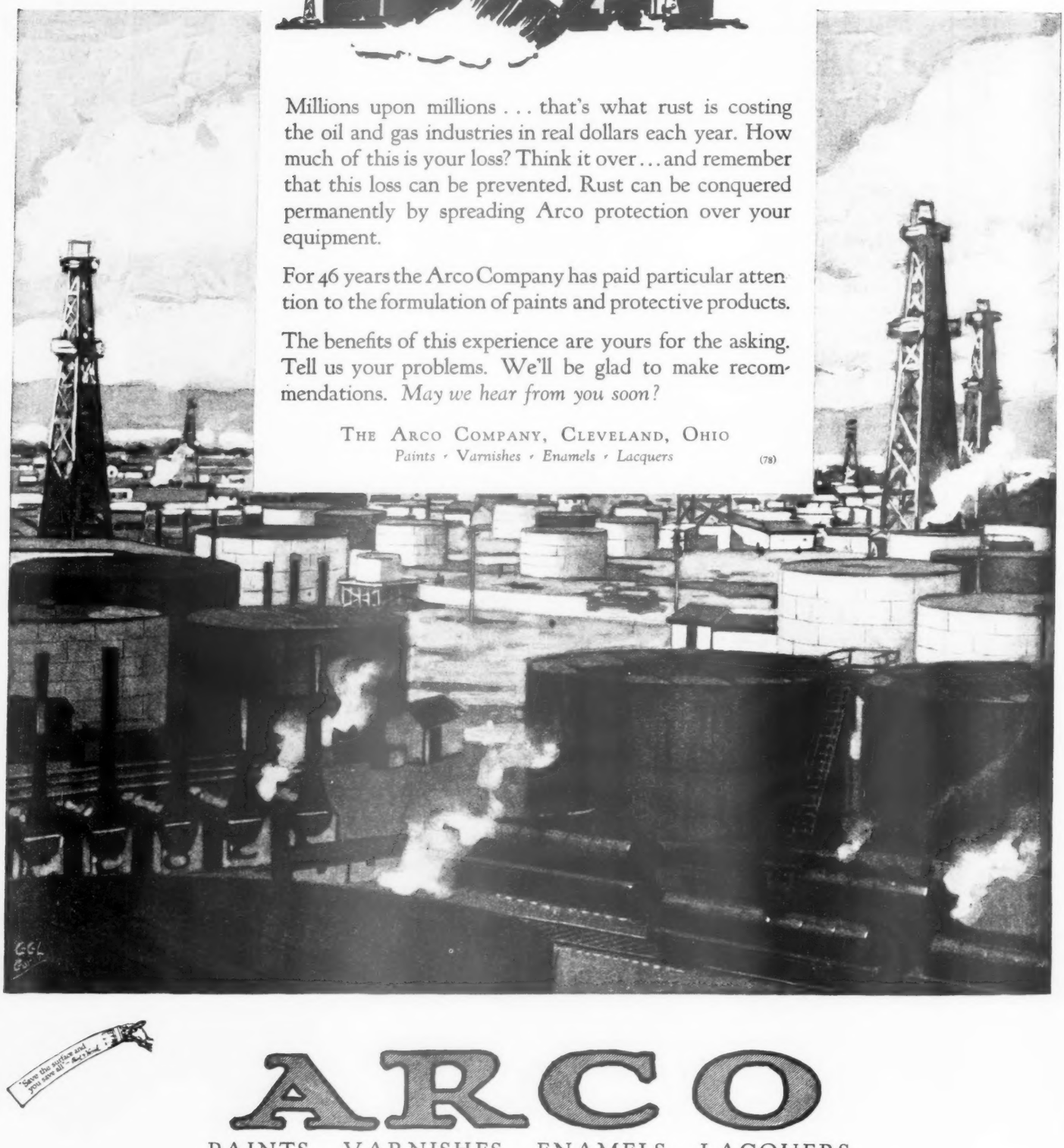

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NUMBER OF PRODUCING OIL WELLS COMPLETED†

September, 1927	1,056	January-October, 1927	12,731
October, 1927	1,086	January-October, 1926*	15,704

†For states east of California, from The Oil and Gas Journal; for California, from the American Petroleum Institute.

Natural-Gas Gasoline

The production of natural-gas gasoline again reached a record level in October, 1927, when the output amounted to 143,600,000 gallons, a daily average of 4,630,000 gallons. This represents an increase over September, 1927, of 2 per cent, and over a year ago of 18 per cent. All of the districts showed increased output, with the exception of the Rocky Mountain area. The approach of cold weather in the Appalachian district, with the resultant increased demand for natural gas, was instrumental in materially raising the output in this district. Stocks of natural-gas gasoline at the plants on October 31, 1927, amounted to 32,797,000 gallons. This represents a moderate increase over the preceding month as against a considerable decrease the previous month.

(Thousands of gallons)

	Natural-Gas Gasoline: Production* Sept., 1927	Production* Oct., 1927	Production* Oct., 1926	Stocks End of Month Sept., 1927	Stocks End of Month Oct., 1927	Blended Motor Fuel, October, 1927: Nat.-Gas Gasoline Used	Naphtha or Other Oils Used	Stocks End of Month
Appalachian	5,600	7,400	8,100	2,434	2,813	205	194	257
Ind., Ill., etc.	1,200	1,400	1,500	256	276	33	1	15
Okla., Kans., etc.	50,500	53,000	44,500	16,590	17,172	1,943	2,885	616
Texas	26,300	27,600	21,500	8,684	9,615	561	585	138
Louisiana and Ark.	6,400	6,900	6,500	965	1,011	244	219	21
Rocky Mountain	3,900	3,800	4,200	634	575	86	27	111
Total east of Calif.	93,900	100,100	86,300	29,563	31,462	3,072	3,911	1,158
California	42,400	43,500	35,800	1,336	1,335	Not available		9
Total United States	136,300	143,600	122,100	30,899	32,797	.....	.....	1,167
Daily average	4,540	4,630	3,940	.....	.....	.....	.....	.....

*Approximately 97 per cent net production; 3 per cent gross.

The indicated output of motor fuel from the above and other sources may be expressed by the following table:

(Thousands of gallons)

	Sept., 1927	Oct., 1927	Oct., 1926
Total gasoline produced at refineries* †	1,164,100	1,213,900	1,106,100
Raw gasoline blended at plants east of California	2,600	3,100	2,600
Raw gasoline sold direct to jobbers (estimated)	800	800	800
Benzol production ‡	8,800	9,100	7,600
Total motor fuel produced	1,176,300	1,226,900	1,117,100
Daily average	39,210	39,580	36,040
*Includes natural-gas gasoline blended at refineries.	103,900	114,500	91,000
†Includes natural-gas gasoline run through refinery pipe lines in California	8,500	8,800	12,200

‡Estimated with production of by-product coke as a basis.

STEEL TRADE IS LOOKING UP; INCREASED ACTIVITY EXPECTED

By B. E. V. Luty

PITTSBURGH, Pa., Dec. 12.—Things are looking up somewhat in the steel trade, in that production is fully sustained when a year-end slackening would be in accord with various precedents. Prospects of the usual increase in activity in the first quarter of the new year are made all the more secure.

In the finished steel products generally demand is quite well sustained, with only a little tapering off here and there, while there has been such an increase in rail production in the past few weeks that it is possible the total production of steel is increased from the very uniform rate that held for the four months July to October inclusive.

Rail orders amounted to about 750,000 tons in October and 650,000 tons in November, with about 300,000 tons likely to be placed this month, making a seasonal movement of about 1,600,000 tons, but little if any below the tonnage of one year or two years ago. While deliveries are nominally in the first half of the new year several roads have furnished specifications whereby mills could begin rolling at once.

The Ford announcement of an expected production of 1,000 of the new models per day by January 6 was disappointing in many quarters, where a quicker progress into quantity production was hoped for. Some time ago it was stated that capacity would be 10,000 cars a day. Unless speeding up is much more rapid beyond the 1,000 cars daily the influx of steel orders in connection with Ford operations will not make much impression on the steel market. It may be estimated that production of 10,000 Fords a day would represent steel products made from about 9,000 tons of steel ingots a day. Total production of steel ingots since July 1 has run 127,000 to 128,000 tons per working day, so that the full Ford supply of steel would add say 7 per cent. while 1,000 cars a day would represent less than 1 per cent. The Fordson steel plant is rated at 1,200 tons of ingots a day, and nearly if not all this steel will go into forgings, of which there is an unusually large proportion in the new model.

The remainder of the automobile industry is not showing the interest in buying steel that was expected by this time. Normally December is a very light month in automobile production, with a large increase in January, but preparations are not visible.

After six months of practically no freight car buying, since early in June, inquiries are appearing in volume, and are counted up to amount of 12,000 cars or more. It is expected the railroads will be quite active buyers in the next few months, and there are those who express a belief that the railroads have been designedly holding back orders, to mass them in the presidential year.

Operations of the two largest pipe makers are heavy, on account of recent line pipe orders, leaving more current business for the other producers. It is said that deliveries on the Amarillo-Denver line were called for at 5 or 6 miles a day, or beyond capacity.

There is much more activity in gas well than in oil well drilling. Orders for oil country goods in general are light, but not much lighter than they were, the season interfering with work in the southern fields. Demand for standard pipe is tapering off seasonally, but is still fairly heavy. Jobbers have hardly any stocks to liquidate against the annual inventory.

Pipe mills have fair sized stocks already and are unlikely to run much on stock this month and next as they frequently do. Some of the pipe mills have an operation above 75 per cent and the average of the whole industry is probably in the neighborhood of 60 per cent.

Finished steel prices show no very definite trend. The advance in bars, shapes and plates to $1.80 is being held well, but carloads do not usually go at above this figure, which also appears to be minimum. Sheets and strips are a little easier. Sheet mills are now selling for first quarter and will put their contemplated price advances in force after they have secured backlogs.

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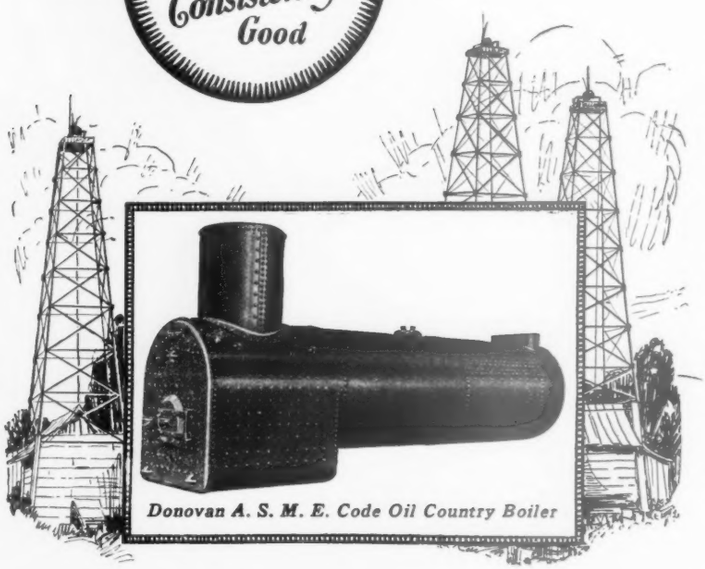

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SENATOR ODDIE SAYS GOVERNMENT NEGLECTS THE OIL INDUSTRY

By Tasker L. Oddie*

U. S. Senator From Nevada, Chairman Senate Committee on Mines and Mining.

The oil industry offers one of the most important fields for technical research and economic investigation. New fields must be discovered, the rapidly diminishing known supply must be conserved, waste and loss must be eliminated, and improved methods of development, extraction, and refining must be found. The valuable and useful work of the Bureau of Mines and the Geological Survey in the past, and the urgent need for increased activities along these lines in the future, demand an increase in the appropriations for this work by these two efficient governmental agencies.

There is great need for increased appropriations for technical research regarding helium—that rare gas which is used in lighter-than-air craft, of such vital importance to our national defense. It is imperative that new sources of this material be developed and that the process of extraction and treatment be improved, in order that the quantity may be increased and the cost further reduced. The research work done by the Bureau of Mines on this gas has already resulted in the reduction of the cost of its production from several dollars to several cents per cubic foot. Numerous new uses for this gas can be found if the price is sufficiently reduced.

Bureau of Mines Needs Money

Another important reason for increased appropriations for economic and technical research work for the Bureau of Mines is making available for commercial development the vast deposits of oil shale and lignite in our western country, which contain in solid form far greater quantities of oil susceptible of extraction than all the oil pools heretofore known, and which will furnish the liquid fuel and other essential products after our oil fields have become exhausted. Some work has been done in this field, but the necessary appropriations for continuing it in an adequate manner have been withheld.

Our petroleum supplies must be handled in a businesslike and efficient manner in order that ample production be maintained as long as the supply from oil wells lasts, and in the meantime our vast oil shale and lignite deposits must be developed and processes for their reduction perfected, in order that the country may not lack its necessary supply of oil and gasoline in a possible interim that might exist between the time of the exhaustion of the present supply from oil wells and the bringing in of the new supply from the oil shale and lignite deposits.

Predictions Unsafe

Predictions of the exhaustion of our oil supply from oil wells in the near future are unsafe, because the advanced geological and technical knowledge and methods of discovery of oil deposits are constantly making possible the discovery of new fields. As our demand has increased, the supply has increased. No one will be able to say for a long time to come that all the oil fields have been discovered. Furthermore, it must be remembered that an average of only 20 per cent of the oil is at present extracted from the deposits, and that a portion of the 80 per cent left in the sands underground under present methods will be extracted in the future by new methods which undoubtedly will be discovered.

Hand in hand with these statements must go the strong admonition against wasteful methods in the industry whereby great quantities of gas from oil wells is lost, which, in addition to large economic loss, results in leaving a large proportion of the oil in the sands unrecovered.

The consuming public must be protected by an adequate supply of oil at all times at reasonable prices. The present needs for our national defense must be provided for and its future needs anticipated. The oil producing industry on the other hand must also be protected and allowed to operate effectively and profitably. The industry consists of both large and small operators whose methods of operation are necessarily different, though both are essential to our economic and business structure. Federal control of oil production is unconstitutional. The oil industry while maintaining an adequate supply, must conserve its oil resources, reduce waste, and improve methods of production, refining and marketing.

Government Neglect

The Government is neglecting its duty in so reducing the appropriations for the Geological Survey that the great work the survey has done for many years in making and publishing detailed geological reports on mining and oil districts, topographic surveys, and stream measurements has been curtailed to such an extent that these reports can not be completed and published until, in some cases, the current need for them has long ceased to exist. Instead of serving as up-to-date and useful aids to industry, as Congress intended them to be, they are in many cases nothing but post-mortems.

The Bureau of Mines is the clearing house of information on mineral economics; and, in this connection, it should be remembered that there is at all times an urgent demand for reliable economic information regarding minerals from the bureau which information is generally accepted as authoritative and impartial because it is sponsored by the Government. Yet only a pitifully inadequate sum is allowed for the bureau's economic research work in view of the great need for an enlargement of this vitally necessary work.

Time prevents the enumeration of more of the important activities of the Bureau of Mines and the Geological Survey which await legislative action by Congress to provide sufficient appropriations to enable them to function as they should. I commend these two government agencies for their splendid accomplishments with the means at their command. They have been seriously handicapped by an agency of the Government which has denied to the mining industry appropriations sufficient adequately to maintain one of the most important and basic economic structures of our civilization.

This agency is the Bureau of the Budget, which has usurped the powers of Congress to a large degree, and which is utterly lacking in the technical and economic knowledge necessary to determine the needs of these particular Bureaus of the Government. On the contrary, it persistently directs its attention solely to reducing appropriations rather than to those broad questions of service and efficiency, which, if properly appreciated and intelligently handled, would result in an increased provision for the public welfare and safety. Another policy of the Bureau of the Budget forbids the heads of Departments of Bureaus from asking Congress for more than the Budget has allowed.

*Before American Mining Congress, Washington, D. C.

P. S. POWELL DIES

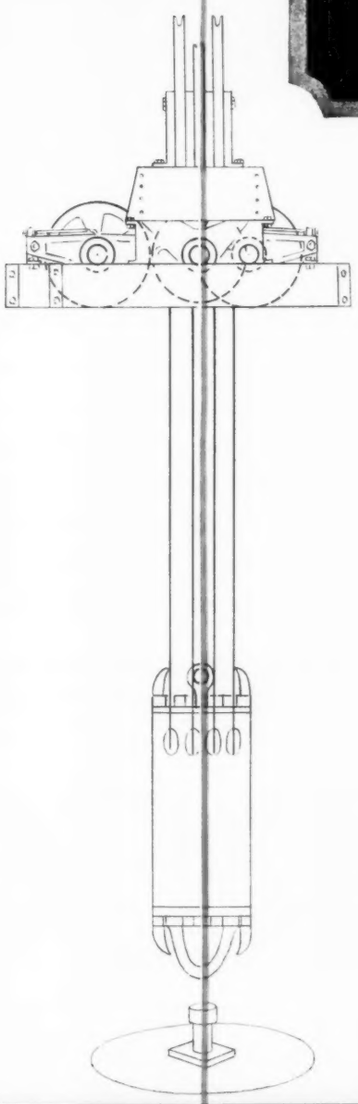
P. S. Powell died recently at a hospital in San Antonio, Tex. He was 58 years old and had been identified with the oil business for years. He was a banker at Nowata, Kans., later going to Tulsa, Okla., and for some years has most of his time in San Antonio.

INCREASE CAPITAL

HOUSTON, Tex., Dec. 10. — Officers of the Humble Pipe Line Co. have received notice from the Secretary of State at Austin, that the company has been granted an increase in its capitalization from $24,000,000 to $50,000,000. The increase is due to greater investments of the company, particularly in West Texas.

Feature No. 7

Regan Crown Block keeps Traveling Block centered



When changing the Regan Crown Block from 7 to 8 sheaves the Crown Sheave remains in its central position in dead center over the hole. Regardless of the number of sheaves used the Crown Sheave remains in its original position. This eliminates the necessity of shifting the Block when additional lines are to be added.

FEATURE NO. 1
No Side-Drag on Wire Lines

FEATURE NO. 2
Lines Flare in Proper Direction

FEATURE NO. 3
Large Sheaves Reduce Bending

FEATURE NO. 4
Wire Line Slippage Reduced

FEATURE NO. 5
Speed

FEATURE NO. 6
Crown Sheave Over Dead Center

Watch our future advertisements for additional features.

Write for pamphlet which describes the many features and illustrates the improved way of stringing up a Crown Block.

Regan
Forge & Engineering Co.
Manufacturers of Oil Well Equipment
Quality — Brought up the Regan Standard
San Pedro, California U.S.A.

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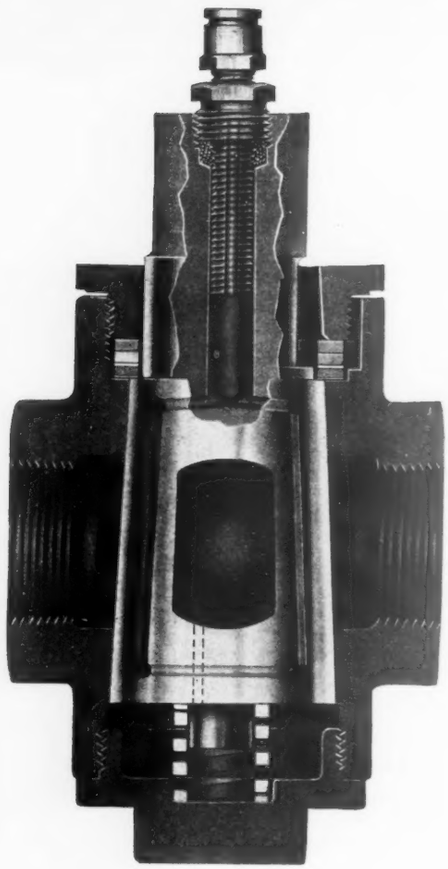
Wm. Brnat, Manager

MARACAIBO, VENEZUELA
Wm. Adams,
Care American Consul

ODESSA, TEXAS
PAMPA, TEXAS



The BARCO PLUG VALVE opened and closed 71,250 times

A BARCO PLUG VALVE that had opened and closed 71,250 times was recently removed for inspection. Its condition was found perfect. This service had covered 19 months during which it had been cleaned only once.

This ability of Barco Plug Valves to outlast several ordinary valves is of great value in many refinery and oil field applications. For example, take valves on the blending rack in the gasoline plant. The quick opening and closing of this valve and its elimination of leaking are additional advantages that recommend it for this and other applications. Ask for Catalog 307.

See our exhibit in booths 116 and 118 at the 1928 Chicago Power Show, Feb. 14 to 18.

Barco Manufacturing Company
1801 Winnemac Avenue, Chicago

BARCO

Valves and Joints

Oscar J. 12-15 Gray

SUPERIORITY OF GOVERNMENTAL CONTROL DELUSION, SAYS CAMPBELL

By P. P. Campbell*
Former Representative from Kansas.

It must appear to its advocates that government control is a panacea for every ill and that superior wisdom, extraordinary ability and superpower to master industrial conditions and business problems are inherent in the Government. They say, "Let the Government do it if it is a big problem." I give second place to no one in my great admiration for the genius and spirit of our governmental institutions. No organization has ever been planned for the control of national and international affairs of a people comparable to that provided in our governmental scheme. But it does not follow that a scheme of Government that is thus adapted to such national and international governmental questions as concern a great people is also fitted to manage or control the production of the mineral resources of the United States.

When the Government acts it acts through human agencies. Our civil service has developed many competent clerks, accountants, stenographers, linguists and scientists. The geological survey has developed some splendid theoretical geologists. The Bureau of Mines has studied and demonstrated some theories that are of unusual interest to miners. The Bureau of Standards has made tests of materials that are of great value. But experts in the Geological Survey and the Bureau of Mines would not necessarily make good mine superintendents or even pit bosses, and the experts in the Bureau of Standards would probably have great difficulty in laying out a tank farm and building tanks and laying suitable pipe lines for carrying petroleum products. My experience with government bureaus and commissions has given me a very high regard for the personnel of such bureaus and commissions as are engaged in the ordinary conduct of the government's business. Each man at his best is an expert in his line. He knows where the papers are, the law enacted and how it applies to the particular matter that comes over his desk. Years of devotion to a particular line of work has made him an expert in his particular line. It does not follow that one lacks confidence in his ability when he would not place the operations of an industrial enterprise under his control. Such a work is out of his line.

A Popular Delusion

But there is an impression that if one is appointed or elected to a position in the Government, local, state or national, that he at once becomes endowed with an ability that his neighbors and friends never gave him credit for. Old Bill Williams, of Big Creek Township, was a fairly good farmer. None of his neighbors ever credited him with having a knowledge of the law and being competent to advise them with respect to legal matters. He was elected a justice of the peace and over night his neighbors assumed that he had been endowed with legal wisdom to such a degree that he would be a suitable adviser on legal questions. Justice-elect Williams went to Justice Fawler, a neighboring justice who had had many years of experience, and said, "I want to qualify as a justice of the peace." Justice Fawler said, "I will swear you in but all hell can't qualify you."

Electing a man governor of a state, or senator from his state, or even president of the United States does not endow him with that superhuman wisdom and ability that qualifies him to conduct or control the intricate business that the American people, with great pains and rare skill and ability, have developed under private enterprises.

Government Failures

Let me call your attention to the way the Government let its own affairs run. The Government owns large areas of timber land carrying millions of feet of lumber. It has or controls immense acreage of mineral lands bearing all kinds of mineral. It has also assumed jurisdiction and control over streams susceptible to developing enormous water power. It is said that millions of feet of timber ripen and waste every year on government timber lands. It has not discovered or developed producing mines of coal, or gold, or silver, or lead, or zinc from all the lands bearing these ores under its ownership or control. It owns or controls immense areas of land bearing oil and gas and it has not discovered under its own initiative a single barrel of oil for the manifold uses for which oil is used by the Government. Millions of water horsepower run on aimlessly to sea while the Government refuses to lease the power and is unable to develop it on its own account. Natural resources are either dormant or wasting; a great power on countless streams wastes its energy on its way to the oceans. It is within the memory of all that when the Government operated railroads, express companies, telegraph and other great business agencies, there was such a gross lack of management as led to waste, extravagance and incompetency never known before or since in connection with any of the enterprises whose operation and control the Government undertook.

The Government cannot operate or properly direct industrial or transportation enterprises. The successful operation and management of these enterprises is impaired by the hope of individual reward for individual effort. It was under this necessity that they have been successfully developed and managed, and it is through this inspiration that our natural resources have been discovered and developed and our business enterprises built up and our lines of transportation extended. All these enterprises have been brought up to a degree of efficiency and prosperity never before experienced by any people in the progress of civilization.

Fireless Days

The emergency of the great war demanded immediate production and quick delivery. When the production of commodities was left to private enterprise, the production was made. When the production was taken over by the Government, the people froze or had fireless days. When transportation was in the hands of private enterprise, delivery was speedy; where transportation was under the control of the Government, it went to the point of destination with leaden feet, if it went at all. Private enterprises retained the control and operation of the oil industry and oil and all oil products were delivered when and where required in such quantities as we needed for all purposes. The Government undertook the regulation of bread products and many of us learned to eat bran and have been eating it ever since. Private enterprise retained the control of meat products and meat was supplied and delivered wherever and whenever wanted. Everything that Government placed its hands upon was struck as with a blight and everything left to individual enterprise was conducted with efficiency and promptness. No building structure in any community costs as much as the one built under the direction and supervision of the Government and the cost is from two and one-half to three times as great to the Government as for a similar private building.

Burden of Bureaucracy

These objections to government control could be multiplied indefinitely. There are other objections to the creation of more bureaus or commissions for the conduct and control of private enterprises. The people of the United States paid last year over $10,500,000,000 for Government, local, state and national, and it wasn't worth it. An individual or two with an overheated imagination conceives the idea that another bureau

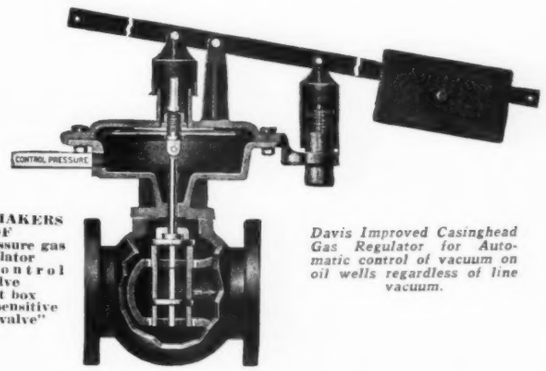
*Before American Mining Congress, Washington, D. C.

One compressor line will serve a group of wells

NO matter what vacuum variation you may have to maintain on a group of wells you can operate them all on one suction line with Davis Casing Head Gas Regulators.

The utter simplicity of design in the construction of this valve is its own guarantee for long, hard service. No complicated parts to get out of order—there is only one internal movable part—a balanced bevel seated disc, coupled to the flexible diaphragm. The counterweight holds the valve open—the vacuum closes it—there can be nothing simpler.

Davis valves have won wide recognition for dependable, trouble-free service in the oil fields. Our catalog will give the details of construction and design, will show you why thousands of oil well installations are served by Davis Valves.



ALSO MAKERS OF
Low pressure gas regulator
Fluid control valve
Float box
"Supersensitive relief valve"

Davis Improved Casinghead Gas Regulator for Automatic control of vacuum on oil wells regardless of line vacuum.

G. M. DAVIS REGULATOR CO.
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WESTCOTT & GREIS, Inc.
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Valve Makers for Over Fifty Years

DAVIS VALVE SPECIALTIES

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AIR LIFT OPERATION REQUIRES DEPENDABLE LUBRICATION

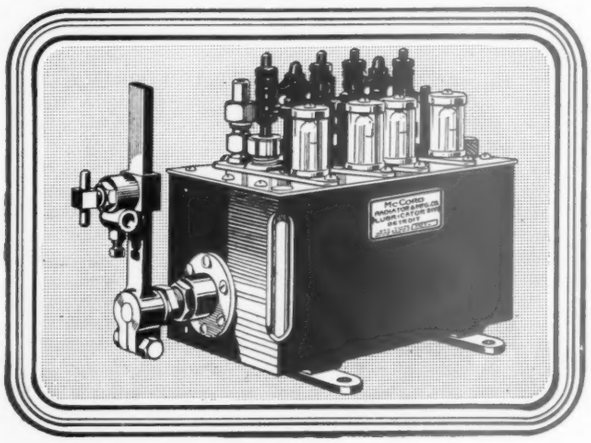
McCord Force Feed Lubricators

Standard of the Oil Fields

An important factor in the successful operation of the air lift principle of pumping oil is the reliability of the compressor. McCord Lubricator equipped compressors maintain the constant air pressure required because every moving part is lubricated continuously with fresh live oil. A McCord lubricator automatically regulates the quantity of oil used in proportion to the speed of operation eliminating waste. The result is a reliability of operation that cannot be obtained otherwise.

Ask your National Supply Co. salesman for full details of the McCord Lubricator for compressor use.

McCORD RADIATOR & MFG. CO.
Lubricator Division
DETROIT, MICH.



is necessary to contribute to the common welfare. Magazines and newspapers give publicity, the agitation grows. Socialists and Communists of all shades and degrees from the highbrow to the lowbrow take up the hue and cry and Congress is impressed and a bureau with a chief and a few clerks is created. In a few years it becomes an immense organization covering blocks of rented space in Washington with layers of people three stories deep accomplishing nothing useful or that contributes to the common welfare of the people. Bureaus and commissions always grow in size.

Bureaus and commissions have taken over the Government of a once free people. We have become a bureaucracy with bureaus exercising control over every activity of the people in every walk of life. The bureaucrats are not elected or otherwise chosen or appointed by the people. Bureaus and commissions in many instances are a terror to the citizen. They exercise a control far beyond anything contemplated by the law that created them. This is the common experience of the average American today whether his business be great or small. The day should come and no doubt will come when there will be a return to representative government in the United States and the people will again be free to conduct their own affairs under laws that are commonly understood to regulate the relations of men and communities to each other. The inauguration of such a day should be looked forward to with the hope of an early dawn rather than that we should stand trenmbling as the evening shadows of another Federal bureau comes on.

CENTRAL WEST

(Continued from Page 58)

mercial oil will be found to the southwest, the direction in which the structure runs as nearly as can be determined from surface indications, down toward the Kankakee Valley in Indiana.

Indiana

Three completions were the sum of the week's activities in southwestern Indiana, no new completions being reported from the old Trenton Rock area of the eastern central portion of the State. Leasing activities still prevail in the Kankakee Valley in the northwestern area of the State, and the spring season should show activity in testing out large blocks of acreage, if conditions warrant.

In the southwestern area, in Veale Township, Daviess County, Hartman and Sargent's No. 2 in the northeast corner of the J. E. Peek, in the NW of Section 27, drilled to a total depth of 1,342 feet. First sand was found from 1,165 to 1,173 feet and second sand from 1,310 to 1,330. A 12-foot pocket was drilled and, following a shot with 100 quarts, the first 24 hours' pumping amounted to 14 bbls.

In Madison Township, Pike County, the Ohio Oil Co.'s second test, 225 feet from the south line and 660 feet from the east line of the Rufus Morgan farm, in the SE of Section 26, was dry at 1,006 feet.

The Murphy Oil Co.'s second test, 700 feet from the north line and 600 feet from the east line of the C. Cooper farm, in the NW of Section 30, Harrison Township, Knox County, proved a duster at a depth of 1,280 feet.

The Siosi Oil Corp. has four drilling wells nearing the sand in Nos. 5, 6, 7 and 8 on the William Riggs, Section 31, in Prairie Creek Township, Vigo County; also close to completion, Nos. 5 and 6 J. A. Thomas, Section 6, Fairbanks Township, Sullivan County.

Illinois

High water in the Illinois streams are affecting development work as in other sections of the Central West. In Johnson Township, Clark County, W. C. McBride, Inc., struck a 20-bbl. pumper at a test in the southeast corner of the J. Connelly, in the NE of Section 2, at a depth of 530 feet and a dry hole in a test 400 feet from the north line and 200 feet from the west line of the E. McFarland, Section 1, at a depth of 1,500 feet. No. 1 is drilling on the Norman Bennett, Section 13, for the same concern.

In Bridgeport Township, Lawrence County, the Ohio Oil Co.'s No. 56 well, 200 feet from the north line and 1,130 feet from the east line of the Joseph B. Lewis farm, in the SW of Section 29, is a 5-bbl. pumper from the sand at 1,735 feet.

A dry hole was drilled in a test by Smith and others 50 feet from the south line and 250 feet from the east line of the J. W. Andrews farm in the NE of Section 5, Friendsville Township, Wabash County, 2 miles west and a little north of the Biehl Pool and 3½ miles west and nearly 2 miles north of Allendale. Joe S. Young, Jr., and others got one of the same kind at a second test, 250 feet from the north line and 500 feet from the east line of the O. A. Price farm, in the NW of Section 19, same township, about 1½ miles east and one-half mile north of Friendsville, and about three-quarters of a mile north of the Bass farm, where a year ago or so a gusher was found. This well was drilled to a depth of 1,690 feet, while the Andrews well went to 1,620 feet.

Central Ohio

Eleven completions have been reported since the last review from the Central Ohio gas field. Eight were gas wells, 2 dry holes and 1 an oil well. New work was starting before the heavy rain and snow made it almost impossible to move material.

In Ashland County, the Kemrow Co. brought in a good gas well at a test 316 feet from the north line and 188 feet from the east line of the J. E. Ringler 10 acres, Section 11, Clear Creek Township, Hulse & Kundtz made a location for a test in the northwest corner of the M. Bandeen 13 acres, Section 12, same township. This same firm has started the drill at its second test 1,000 feet from the north line and 510 feet from the east line of the R. H. Hartsmiller 50 acres, Section 1, Troy Township, same county. The Logan Gas Co. made a location for a test 900 feet from the south line and 1,150 feet from the east line of the William R. Lindsay 88 acres in Lot 5 Ruggles Township, same county. In Hanover Township, the same company made a location 1,000 feet from the south line and 700 feet from the east line of the S. A. Cline 72 acres, Section 19, and the Ohio Fuel Gas Co. is drilling its test 660 feet from the south and west lines of the W. A. Cookley 40 acres, Section 20. In Sullivan Township, the Kemrow Co. is drilling No. 5 well 500 feet from the north line and 450 feet from the west line of the J. A. Spencer 138 acres, Lot 79. In Green Township, the Ohio Fuel Gas Co. is drilling a test 1,320 feet from the south line and 600 feet from the west line of the Jacob Kettering 72 acres, Section 26.

In Medina County, Granger Township, the Empire Gas & Fuel Co. is drilling a test 330 feet from the north line and 660 feet from the east line of the Euodice M. Ganyard 137 acres, Lot 54.

In Lorain County, Columbia Township, the Ohio Fuel Gas Co. is drilling a test 1,000 feet from the south line and 550 feet from the west line of the L. D. and J. Richards 50 acres, Lot 4.

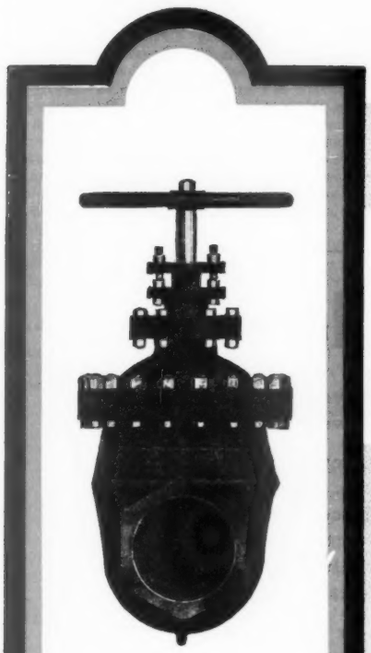
In Wayne County, Chester Township, the Logan Gas Co. made a location for a test in the northeast corner of the Joseph W. Troxel 82 acres, Section 7, and for a test 660 feet from the north line and 745 feet from the east line of the Godfrey F. Martin 130 acres, Section 5.

In Prairie Township, Holmes County, the Ohio Oil Co.'s test, 660 feet from the north line and 300 feet from the west line of the Jacob E. Miller 100 acres, Lot 8, is an average gas producer. In Richland Township, the East Ohio Gas Co. made a location for a test 660 feet from the north and east lines of the Richard Roby 40 acres, Lot 14, and the Logan Gas Co. staked a location for a test 660 feet from the north and east lines of the John Mullet 105 acres in Lot 24.

Cassingham Well a Duster

In Coshocton County, Newcastle Town-

(Continued on Page 112)



~A solution to your valve troubles

You can't afford to make your well the testing laboratory of untried valves. They might have all the earmarks of a good valve yet hidden in the texture of the steel may be a defect that may cause it to give way at a critical moment.

Kerotest Valves eliminate all such possibilities because they are given the famous Kerosene test at 3000 pounds pressure, then certified by an independent laboratory testing organization before being shipped to the oil fields.

Thus, with every Kerotest Valve you get a certificate of inspection showing that your Kerotest is tried and true,—you know beforehand that a Kerotest will hold down the wildest well.

Have you received your copy of Kerotest's new 1927 Catalog just off the press?

Kerotest Manufacturing Company
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GRINNELL COMPANY OF THE PACIFIC
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OIL WELL SUPPLY COMPANY
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KEROTEST
REGISTERED U.S. PAT OFF.

BP Gears in Hild Drives

The success of the Hild Differential Drive has been phenomenal and its use has revolutionized rotary oil well drilling.

When the Oil Well Supply Company wanted someone to build a gear unit able to stand the terrific demands of deep rotary drilling, they came to the Nuttall Company. Exceptional manufacturing facilities, plus long experience in gear cutting and reduction unit manufacture has enabled us to build into the Hild Drives the wear resistant qualities so characteristic of Nuttall Pump Gear Units.

The gears in the Hild Drive are treated by the famous BP "tough-hard" process—the most successful ever developed for the treatment of gear steel. Hild Drives that have drilled as high as fourteen wells, show practically no wear on the gears—convincing proof of the gear quality.

R. D. NUTTALL CO.—Pittsburgh, Pa.

Houston, Union Nat'l Bank Bldg. Los Angeles, 420 S. San Pedro St.
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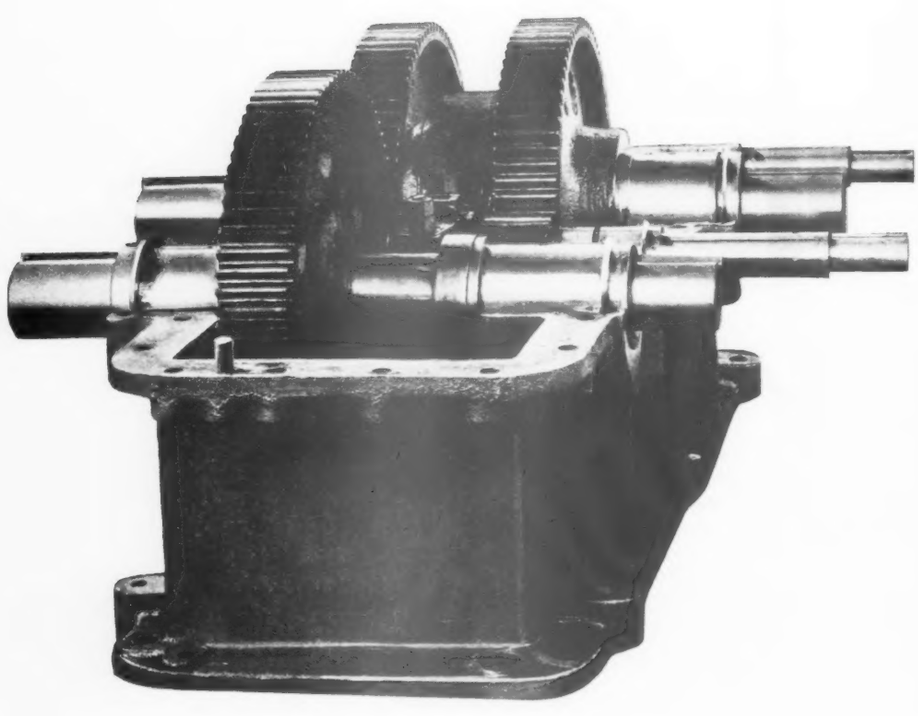


AVERAGE TANK WAGON PRICES IN 50 CITIES LOWEST IN TWO YEARS

Additional reductions in the gasoline tank wagon prices over the United States lowered the average price in The Oil and Gas Journal's 50 cities to 14.21 cents, a new low for the past two years. This average is 3.4 cents below the average for December 1 of last year. The trend downward has been constant since June 1 of last year when the price was shown as 19.61 cents. The average price over 1926 was 18.09 cents and the average for this year will be approximately 15.46 cents or the loss per gallon will be 2.53 cents. When figuring the loss sustained by the oil industry by having to sell at this year's average price compared to that of last year the loss amounts to a staggering sum. This will approximate $308,500,000 for the year.

The number of price changes have been materially reduced over the last few months, indicating a more settled retail marketing condition but there continues to be numerous points scattered throughout the country where competition is not only forcing prices to an abnormally low figure but is holding it there month after month. The thickly populated areas receive the attention of refiners in this respect for the great consumption of these areas attract refiners and marketers seeking an outlet for a large volume of material, choosing to sacrifice a portion of their production without profit or even at a loss over a short period in order to maintain a high gallonage. Likewise, quick and relatively cheap ocean transportation has allowed refiners in practically every section in the United States to compete with every other sec-

GASOLINE PRICES EFFECTIVE DECEMBER 1, 1927

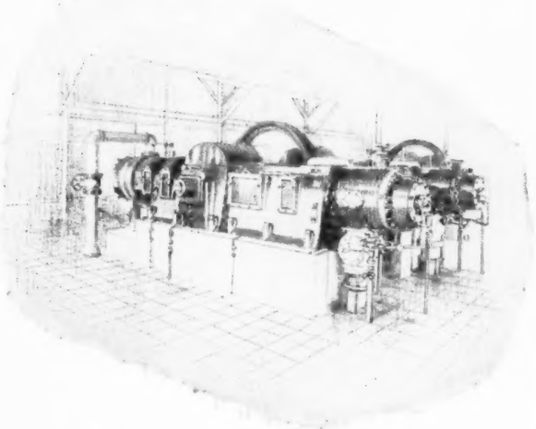
Table showing gasoline tank wagon prices as of December 1, 1927, exclusive of taxes, in 50 representative cities, including the amount and the date of changes since November 1, 1927. High and low prices and state taxes also given

	Prices Nov. 1	Changes	Prices Dec. 1	High and Low —1926—		—1925—		Tax Dec. 1 1927
Birmingham, Ala.	14.0	..	14.0	20.0	16.0	20.0	13.0	4.0
Phoenix, Ariz.	19.0	....	19.0	22.0	19.0	20.0	18.0	3.0
Little Rock, Ark.	11.0	....	11.0	18.0	14.0	19.0	12.0	5.0
San Francisco, Calif.	14.0	..	14.0	16.0	13.0	15.0	13.0	3.0
Denver, Colo.	13.0	....	13.0	20.0	16.0	20.0	12.0	3.0
Hartford, Conn.	19.0	..	19.0	21.0	17.0	21.0	15.0	3.0
Dover, Del.	16.0	....	16.0	20.0	17.0	21.0	15.0	3.0
Jacksonville, Fla.	13.0	....	13.0	19.0	12.0	19.0	12.0	5.0
Atlanta, Ga.	12.0	10 10.0	10.0	21.0	14.0	21.0	11.0	4.0
Boise, Idaho	19.5	..	19.5	24.0	20.0	21.5	15.0	4.0
Peoria, Ill.	9.2	..	9.2	19.2	10.5	19.2	10.5	2.0
Chicago, Ill.	14.0	..	14.0	18.0	15.0	18.0	13.0	2.0
Indianapolis, Ind.	10.2	....	10.2	19.2	16.2	19.2	13.2	3.0
Des Moines, Iowa	9.9	....	9.9	19.5	16.0	19.5	13.5	3.0
Wichita, Kans.	11.8	....	11.8	16.8	14.8	18.8	8.8	2.0
Louisville, Ky.	14.0	19 13.0	13.0	20.0	17.0	19.0	12.0	5.0
New Orleans, La.	12.5	....	12.5	17.5	13.5	18.5	11.5	†3.0
Augusta, Me.	17.0	....	17.0	21.0	17.0	22.0	15.0	4.0
Baltimore, Md.	16.0	....	16.0	19.0	15.0	19.0	13.0	4.0
Springfield, Mass.	17.0	....	17.0	21.0	17.0	21.0	15.0	...
Detroit, Mich.	11.8	....	11.8	19.8	16.8	19.8	13.8	3.0
Duluth, Minn.	12.5	....	12.5	20.5	15.5	20.5	13.5	2.0
Natchez, Miss.	12.5	....	12.5	18.5	15.5	18.5	11.5	4.0
Kansas City, Mo.	10.9	....	10.9	18.9	15.9	18.9	12.9	†3.0
Helena, Mont.	19.5	....	19.5	24.0	21.0	24.0	18.0	3.0
Omaha, Neb.	12.25	..	12 25	19 25	14 25	19.25	10 0	2.0
Reno, Nev.	18.0	....	18.0	19.5	16.5	18.5	16.5	4.0
Newark, N. J.	16.0	....	16.0	19.0	15.0	19.0	13.5	2.0
Albuquerque, N. Mex.	16.0	..	16.0	26.5	20.0	23.5	19.5	5.0
New York, N. Y.	17.0	....	17.0	21.0	17.0	22.0	15.0	...
Charlotte, N. C.	16.0	....	16.0	19.5	15.5	20.0	12.0	4.0
Fargo, N. D.	12.0	....	12.0	21.0	18.9	20.9	14.9	2.0
Cleveland, Ohio	14.0	....	14.0	20.0	16.0	18.5	15.0	3.0
Tulsa, Okla.	11.0	10 10.0	10.0	17.0	13.0	18.0	9.5	3.0
Portland, Ore.	14.5	....	14.5	16.0	13.0	15.0	13.0	3.0
Philadelphia, Pa.	14.0		14.0	20.0	17.6	21.0	15.0	†3.0
Providence, R. I.	17.0	....	17.0	21.0	17.0	22.0	15.0	2.0
Charleston, S. C.	15.0	....	15.0	19.5	15.0	20.5	12.5	5.0
Huron, S. D.	14.5	....	14.5	20.5	14.0	20.0	13.0	4.0
Memphis, Tenn.	13 5	11 12 0	12 0	18 5	13.5	18 5	10 5	3 0
Dallas, Tex.	11.0	....	11.0	17.0	13.0	18.0	10.0	3.0
Salt Lake City, Utah	17.5	....	17.5	22.5	18.5	21.5	17.5	3.5
Burlington, Vt.	17.0	....	17.0	21.0	18.0	22.0	15.0	2.0
Norfolk, Va.	16.0	....	16.0	19.0	15.0	20.0	14.5	4.5
Washington, D. C.	16.0	....	16.0	19.0	15.0	19.0	14.0	2.0
Charleston, W. Va.	16.0	....	16.0	19.0	15.0	19.0	14.0	4.0
Milwaukee, Wis.	13.1	....	13.1	19.1	16.1	19.1	13.1	2.0
Casper, Wyo.	14.0	....	14.0	20.0	17.0	20.0	15.0	3.0
Seattle, Wash.	14.5	....	14.5	16.0	13.0	15.0	13.0	2.0
Minneapolis, Minn.	11.0	....	11.0	20.2	15.2	20.2	13.2	2.0
Average price	14.32		14.21	19.717	15.713	19.647	13.629	3.0

†State tax 2 cents, remainder city tax. ‡Tax paid by dealer.

GARLOCK

STOP Wasting Oil
In Your Compressors



by applying Garlock Oil Return Wall Plate Metal Packing

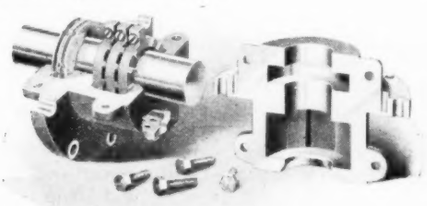
Replace the inefficient Oil Wiper Packing on your Compressor or Gas Engine Wall Plate with Garlock All Metal Oil Return Wall Plate Packing. It absolutely eliminates oil waste and is positive in action.

It will wipe every drop of oil from the compressor piston rod and return it freely to the crank case. In addition to the oil wiper feature this packing is so designed that it will take care of the vacuum and low pressure on certain types of power cylinders.

It is a known fact that the greater majority of gas and air compressors are over-lubricated and from efficiency standpoint this causes an economical and mechanical waste. Garlock Oil Return Packing is one of the first devices on the market to eliminate this condition. The savings as made are listed below:

1. Greatly reduces the amount of oil consumed.
2. Eliminates oil being deposited on the discharge valves, valve chambers, pipe lines and receivers.
3. Checks oil from being discharged by the cylinder into the compressed air and gas.
4. Stops the forming of carbon deposits and oxidation.

Garlock Oil Return Packing is furnished in either split or solid case which is bolted to the partition wall plate after the stuffing box is removed. Complete mechanical details and specifications can be obtained by writing any of our Oil Field Sales Offices.



Patent Applied for

Garlock Oil Return Wall Plate Metal Packing for Gas and Air Compressors

The Garlock Packing Company
Palmyra, New York

Oil Field Warehouses and Sales Offices

Houston, Texas Tulsa, Okla. Los Angeles, Calif.
Pittsburgh, Penna. Cleveland, Ohio Denver, Colo.

The Standard Packing of the World

Emphatic Savings ,,Guaranteed

No-Co-Ro Drops and Seats Give *Amazingly* Long Service

Never, we honestly believe, has there been such a radical improvement of equipment in the oil well pumping equipment! The costly pulling of wells at semi-monthly, even weekly intervals has been drastically reduced. No-Co-Ro Drops and Seats have given almost unbelievable performance under the most trying circumstances, because they are designed for such service. The loose, bobbing action of the ball and seat type has been replaced by the dependable, rhythmic performance of the No-Co-Ro Drop and Seat. Records of satisfied customers the world over, show a Drop and Seat to outwear and out-perform from *5* to *36* balls and seats.

50% Reduction in Pulling Costs Guaranteed

The next time you pull a well, replace with a Drop and Seat. If it does not show you an actual saving of 50% we will refund your money. And your saving should be closer to 80%. Remember, no "strings" to this offer—it's the bona fide guarantee of a company known wherever oil is produced for its square dealings.

Our Fort Worth warehouse, with a complete line of pumping equipment, is at your service. 12 to 24 hour deliveries throughout the Mid-Continent and Gulf Coast Fields.

NORRIS BROTHERS Inc.

Robinson, Illinois, and Fort Worth, Texas

tion and there no longer exist exclusive trade territories for the respective groups of refiners.

AVERAGE TANK WAGON PRICE IN 50 CITIES

(Exclusive of tax)

January 1, 1926	16.133
February 1	16.213
March 1	17.267
April 1	18.517
May 1	18.487
June 1	19.607
July 1	16.697
August 1	19.697
September 1	19.587
October 1	19.167
November 1	18.187
December 1	17.607
January 1, 1927	17.567
February 1	17.469
March 1	17.007
April 1	16.160
May 1	15.320
June 1	14.720
July 1	14.86
August 1	14.89
September 1	14.62
October 1	14.39
November 1	14.32
December 1	14.21

EAST COAST RECEIPTS WERE SLIGHTLY LESS

By N. O. Fanning

New York Bureau, The Oil and Gas Journal

NEW YORK, Dec. 10.—Receipts of crude and refined oil by tanker at Atlantic Coast ports for November are estimated at 16,281,000 bbls., a daily average of 511,000 bbls. This compares with 16,828,000 bbls., or a daily average of 541,000 bbls. in October, and 14,921,000 bbls., or 493,000 bbls daily in November 1926.

An increase in imports from South America and smaller receipts from the Pacific Coast were the principal features of the November movement. The former totaled 3,250,000 bbls. or 109,000 bb's. daily, a record, and an increase over the same month a year ago of 2,045,000 bbls. or 169 per cent. Receipts from the Pacific Coast amounted to 1,851,000 bbls. against 3,040,000 bbls in October, a decline of 1,189,000 bbls, or 60 per cent. The decline in Pacific Coast receipts compared with a year ago amounted to only 64,000 bbls.

Receipts from the Gulf Coast in November showed only a small increase compared with October, the gain being 132,000 bbls. while compared with November, 1927, they show a decline of 215,000 bbls. The total Gulf receipts in November of this year were 9,870,000 bbls.

The following table shows total and daily average estimated receipts of crude and refined oil by tanker at Atlantic Coast ports for November, 1927, October, 1927, and November, 1926 (figures in barrels):

	Nov. 1927	Oct. 1927	Nov. 1926
Baton Rouge & N. Orleans	865,000	1,056,000	2,749,000
Port Arthur, Sabine & Beaumont	4,194,000	4,433,000	3,894,000
Texas City, Houston & Galveston	4,253,000	3,810,000	3,442,000
Corpus Christi	558,000	439,000	.....
Gulf Coast..	9,870,000	9,738,000	10,085,000
Pacific Coast.	1,851,000	3,040,000	1,915,000
Mexico	1,310,000	1,195,000	1,716,000
S. America...	3,250,000	2,855,000	1,205,000
Total	16,281,000	16,828,000	14,921,000
Daily Averages			
Baton Rouge & N. Orleans	29,000	34,000	92,000
Port Arthur, Sabine & Beaumont	139,000	143,000	129,000
Texas City, Houston & Galveston ...	121,000	123,000	114,000
Corpus Christi	19,000	14,000	.....
Gulf Coast..	318,000	314,000	335,000
Pacific Coast.	42,000	98,000	62,000
Mexico	42,000	38,000	56,000
S. America...	109,000	91,000	40,000
Total	511,000	540,000	493,000

The principal cause of the increase in imports from South America was the commencement of shipments from Venezuela to the Atlantic Seaboard by the Pan American Petroleum & Transport Co. Heretofore that company had been getting most of its oil from Mexico. Shipments from Mexico are continuing, but on a somewhat reduced scale.

CIRCUIT COURT HOLDS DRILLING RULE VALID

By Charles E. Kern

Washington Bureau, The Oil and Gas Journal

WASHINGTON, D. C., Dec. 12.—The statute enacted by the State of Texas, giving authority to the Railroad Commission to make and enforce rules and regulations for the drilling of oil and gas wells in such a manner as to avoid injury to adjoining property, has been upheld by the Circuit Court of Appeals for the Fifth Circuit to the extent that the commission may limit the location of oil wells in respect to other wells that have been drilled.

In this case the commission has adopted and enforced a provision that no oil or gas well shall be drilled nearer than 300 feet to any other completed or drilled well on the same or adjoining property. Also that no well should be drilled nearer than 150 feet to any property line, giving the commission power to make exceptions to prevent waste or protect property rights. The Circuit Court held that the legislature had the power to enact this law and that the regulations made under it are constitutional and valid.

CENTRAL WEST

(Continued from Page 108)

ship, Cassingham and Bell Brothers' No. 21 on the George Cassingham 319 acres, Lot 5, proved a duster and No. 22 well, 175 feet from the south line and 1,500 feet from the east line of the George Cassingham 73 acres, Lot 2, is drilling. In Monroe Township, the Empire Gas & Fuel Co. is drilling a test 635 feet from the south line and 660 feet from the east line of the George Snow 82 acres, Lot 2.

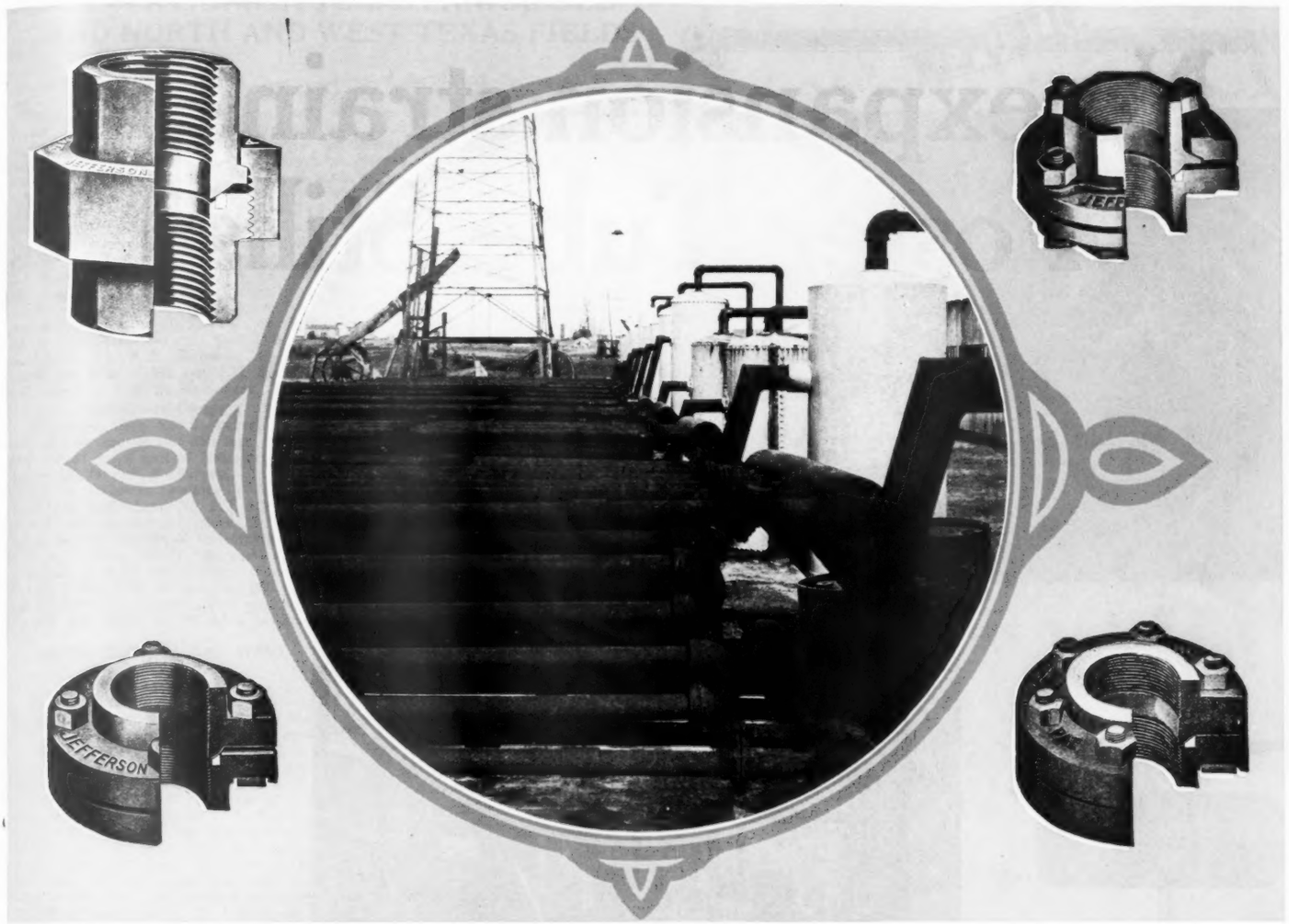
In Cuyahoga County, Olmstead Township, Arthur & Simpson's test 100 feet from the north line and 350 feet from the west line of the Geiss 25 acres, Lot 31, is a good gas well in the Newburg sand. Goff Brothers have an average gas well in the same formation at a test 200 feet east of the highway and 200 feet from the north line of the A. W. Sprague 3 acres, Lot 31. John Arthur is drilling a test in the northeast corner of the L. S. Fuller 21 acres, Lot 28. J. B. Harrison and others made a location for a test in the southwest corner of the Schuman three-quarter acre, Lot 30. Hulse & Kundtz are drilling a test in the northeast corner of the L. M. Ames 29 acres, Lot 28. In Strongville Township, John Arthur has what shows for a 10-bbl. pumper at a test on the B. B. Hazlett 87 acres, Lot 28. Dillon & McFrederick have a dry hole at a test on the Methie Gobel farm, in the northeast quarter of Lot 32.

In Starke County, Lawrence Township, the Wittmer Property Oil & Gas Co.'s test 400 feet from the north line and 660 feet from the west line of the James Nighter 40 acres, Section 3, is reported showing for 3,500,000 feet and opening what looks like a new extension to the gas area. No. 2 is drilling for the same company.

In Mason Township, Lawrence County, the Ohio Fuel Gas Co.'s test on the Otis Elcessor farm, in the SW of Section 18, is estimated good for about 150,000 feet of gas.

In Ross Township, Carroll County, the Jupiter Oil Co. is drilling a test on the Daniel Little 160 acres, in the NW of Section 3.

In Summitt County, Franklin Township, the East Ohio Gas Co.'s No. 1 well, 500 feet from the north and east lines of the Robert Miller 162 acres, Section 28, is an excellent gas well as is its test on the L. Wolfe farm, same section. Same company is starting No. 2 well, 1,600 feet from the north line and 550 feet west of the road on the Robert Miller 162 acres, Section 28.



# of a Hundred Jefferson Unions—100 are TIGHT

Photograph above shows more than one hundred Jefferson Three-Piece Flange Unions on the heat exchanger of a large oil company's gasoline plant.

Jefferson Unions are leaders in the oil industry because they are *unfailingly tight.* Their spherical, brass-to-iron joints—ground in pairs to accurate fit and kept in pairs until assembly—are positively leak-proof and require no gaskets.

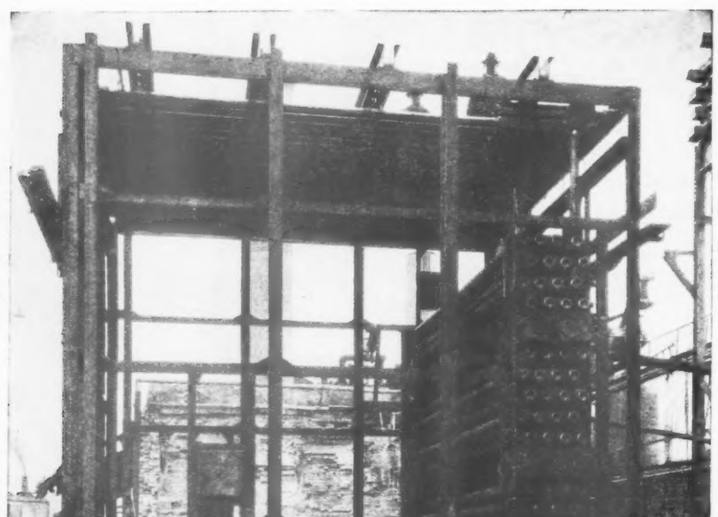
Other advantages of Jefferson Unions are: DURABILITY, resulting from use of the best grade of brass and air-refined malleable iron, with heavy graphite coating on nut threads; and EASE OF APPLICATION, due to liberal play between nut and swivel end.

Jefferson Unions are manufactured by an organization that *specializes* in unions. Furnished in styles and sizes for every oil industry requirement.

JEFFERSON UNION COMPANY
Lexington, Mass., U. S. A.
Handled by All Leading Oil Industry Jobbers

JEFFERSON

No expansion strains in Foster Tube Stills



FOSTER Tube Stills do not depend on the brick setting for support. As in modern office building construction, a sturdy steel framework carries the entire load of the structure.

Foster design therefore permits independent expansion of heating elements and setting, so that expansion of the brickwork will not tend to loosen any joints of the heating elements.

Besides this assurance of long life, over 600 installations have also proven the highly economical fuel consumption of Foster Tube Stills and their ability to operate at high temperatures without danger of overheating the oil or the still.

Foster Wheeler Corporation
A consolidation of Power Specialty Co. and Wheeler Condenser and Eng. Co.
165 Broadway, New York
Branches in principal cities.

FOSTER WHEELER

FRACTIONATING TOWERS HEAT EXCHANGERS
STEAM JET AIR PUMPS SUPERHEATERS
TUBE STILLS VACUUM PUMPS
WATER COOLED FURNACE SURFACES
BRASS AND COPPER TUBING AND PIPE

AERO UNIT COAL PULVERIZERS
AIR HEATERS CENTRIFUGAL PUMPS
CONDENSERS COOLING TOWERS
ECONOMIZERS EVAPORATORS
EXPANSION JOINTS FEED WATER HEATERS

NEW LOCATIONS IN TEXAS PANHANDLE AND NORTH AND WEST TEXAS FIELDS

TEXAS PANHANDLE

Gray County

Danciger Oil & Refining Co. and others' No. 5 W. Jackson, 330 feet north and west of the SE cor. NE NW, Section 88, Block B-2, H. & G. N. Survey. Phillips Petroleum Co.'s No. 1 M. Davidson-Myson, 330 feet south and 290 feet east of NW cor. of the W half of NW, Section 87, Block B-2, H. & G. N. Survey. Shamrock Oil Co.'s No. 1 W. S. Clayton, 330 feet south and west of NE cor. of the east 90 acres of SW Section 50, Block 25, H. & G. N. Survey. St. Clair Oil Co.'s No. 1 C. H. Rowe, 330 feet south and west of NE cor., Section 32, A. D. Heiman Survey. Gulf Production Co.'s No. 2 A. Holmes, 330 feet north and west of SE cor. NE, Section 107, Block 3, I. & G. N. Survey.

Hutchinson County

Navajo Oil Co.'s No. 2 Cockrell-Dickson, 225 feet north and 330 feet east of SW cor. of the S half of NE, Section 3, Block B-3, D. & S. E. Survey.

Wheeler County

Hatcher and others' No. 2 J. Hatcher, C NW SW, Section 80, Block 23, H. & G. N. Survey. Kaufhold and others' No. 1 E. R. Wallace, C SW SE, Section 47, Block 23, H. & G. N. Survey. Woodtex Oil Co.'s No. 2 E. A. Linkey, 660 feet south and 330 feet east of NW cor. NE, Section 126, Block 23, H. & G. N. Survey.

NORTH CENTRAL AND WEST TEXAS

Archer County

Barnsdall Oil Co.'s No. 1 L. F. Wilson, Block 45, 150 feet south and east of the NW cor. of the west 69 acres of the east 89 acres of Section 45, A. T. N. C. L. Survey. Empire Gas & Fuel Co. and Shasta Oil Co.'s No. 1 L. F. Wilson, 1,532 feet south and 150 feet west of NE cor., Section 111, A. T. N. C. L. Survey, being 450 feet north and 150 feet west of SE cor. of their 32.75-acre lease. Frank Darr and others' No. 2 Dr. A. B. Edwards, 450 feet south and 150 feet east of NW cor. NE, Section 26, Lula Plat Hunt Subdivision. T. J. Goodwin's No. 1 W. M. Coleman, 150 feet north and 450 feet east of SW cor. NE, Section 27, W. M. Coleman Subdivision. Seaberry & Brand's No. 1 J. J. Perkins and others, 450 feet north and 150 feet west of the SE cor., Section 22, Denton County School Land, League 3, A-117. Shappell Oil Co.'s No. 11 L. F. Wilson-B, 450 feet north and 500 feet west of SE cor. of their 40-acre lease "B" out of Section 4, S. P. R. R. Survey, A-1,276. Shappell Oil Co.'s No. 12 L. F. Wilson-B, 400 feet north and 500 feet east of SW cor. of their 40-acre lease "B" out of Section 4, S. P. R. R. Survey, A-1,276. The Texas Company's No. 1 L. F. Wilson-D, 660 feet south and east of NW cor. NE NW, Section 103, A. T. N. C. L. Survey. L. T. Burns and The Texas Company's No. 2 L. T. Burns, 150 feet south and 893 feet west of NE cor., Section 27, Club Ranch Subdivision. D. O. Johnson and others' No. 2 H. L. & J. F. Ward, 900 feet north and 150 feet west of SE cor., Section 1,374, T. E. & L. Survey. Robert Oil Corp.'s No. 3 J. R. Garvey, 1,250 feet north and 1,065 feet west of SE cor., Section 1,802, T. E. & L. Survey. Wright and others' No. 3 S. Wilson, 450 feet south and east of NW cor. of the south 20 acres of the east 40 acres of the west 100 acres of the south 200 acres of the north 330 acres of Section 2, S. P. R. R. Survey, A-859.

Brewster County

J. M. Hickey and others' No. 1 Jackson & Harmon, 150 feet south and 300 feet west of the NE cor. of Section 182, Block 9, G. H. & S. A. Survey.

Brown County

Amerada Petroleum Corp.'s No. 4 J. Gilbreath, 450 feet north and 150 feet east of the SW cor. of their lease out of the R. F. DeBord Survey, A-2,136. J. B. Blanchard and others' No. 1 Mrs. S. C. Kesler, 309 feet south and 357 feet east of the NW cor. of the west 20 acres of the SW of Section 42, H. T. & B. Survey, A-2,039. Wheelock & Collins' No. 5 M. L. Smith, 150 feet south and 1,026 feet east of the NW cor. of their lease out of Section 3, S. A. & M. G. Survey, A-850. Pannuco Exploration Co.'s No. 1 Roy Shipman, 1,200 feet southwest of the northeast line and 1,200 feet southeast of the NW line of the R. Shipman 136-acre tract out of the Samuel Durr Survey, No. 161.

Callahan County

Beddingfield and others' No. 1 J. C. McDermitt, 150 feet south and 1,020 feet west of the NE cor. of Section 63, Comal County school land. L. G. Bradstreet's No. 4 J. H. Waller, 150 feet south and 525 feet east of the NW cor. of his lease out of the G. M. Vigal Survey, No. 798. Goodloe & Duffy's No. 2 F. L. Alvord, 750 feet north and 300 feet east of the SW cor. of the NW of Section 75, Bayland Orphan Asylum land. Mook-Texas Oil Co.'s No. 3 E. E. Baum, 300 feet north and 150 feet west of the SE cor. of their lease out of the G. M. Vigal Survey, No. 798. Same company's No. 4 E. E. Baum, 450 feet north and 150 feet west of the SE cor. of their lease out of the G. M. Vigal Survey, No. 798. Tollett & Graham's No. 2 F. L. Alvord, 750 feet north and 300 feet west of the SE cor. of the NE of Section 76, Bayland Orphan Asylum land.

Coleman County

Chestnut & Smith Corp.'s No. 2 J. P. Morris, 3,470 feet north and 2,920 feet west of the SE cor. of the William Webber Survey, No. 722. D. W. Moore's No. 1 W. H. Lightner, 150 feet south and east of the NW cor. of the C. C. Hudson Survey, No. 26. Altrock & Haynes' No. 1 Altrock & Haynes, 800 feet north and 700 feet east of the SW cor. of Section 71, Block 1, G. H. & H. Survey. Gladys Belle Oil Co.'s No. 9 J. T. Pope, 1,205 feet north and 200 feet west of the SE cor. of the J. T. Pope 170.6-acre tract out of the Manuel Martinez Survey, No. 751.

Cooke County

N. H. Martin and others' No. 3 Peter Bindle, 110 feet north and 450 feet east of the SW cor. of Block 81, town of Muenster. Oil Operators Trust Co.'s No. 9 M. J. Kleiss, 450 feet south and 150 feet east of the NW cor. of Block 62, town of Muenster.

Eastland County

Applegate and others' No. 3 L. P. Cunningham, 200 feet south and 2,987 feet east of the NW cor. of the most easterly B. H. Edderson Survey. Associated Petroleum Co.'s No. 1 J. H. Hamilton, 330 feet north and east of the SW cor. of Section 16, McLennan County school land, League 2. Mays and others' No. 1 J. R. Niver, 450 feet south and west of the NE cor. of the west 34 acres of the J. R. Niver 54-acre tract out of Section 2, Block 4, H. & T. C. Survey. Ed V. Parsons and others' No. 3 N. V. A. Blackwell, 1,400 feet south and 1,250 feet west of the NE cor. of Section 13, McLennan County school land, League 2. Ed V. Parsons and others' No. 1 Ora B. Jones, 250 feet south and 3,150 feet west of the NE cor. of Section 6, McLennan County school land, League 2. Rattlesnake Oil Co.'s No. 1 Scott Marshall, 330 feet south and east of the NW cor. of the south 100 acres of the D. Goen Survey. L. Teatsworth and others' No. 1 Allen Morton, 600 feet south and 400 feet west of the NE cor. of the A. Morton 100-acre tract out of the J. M. Crissman Survey.

Grayson County

Miller Drilling Co.'s No. 1 R. W. Getzendaner, 150 feet south and east of the NW cor. of the SE of the T. E. Jones Survey. Simpson-Fell Oil Co.'s No. 2 G. W. Wall, 853 feet south and 213 feet west of the NE cor. of the G. W. Wall 121.92-acre tract out of the James Ingram Survey, A-6,171.

Howard County

Magnolia Petroleum Co.'s No. 9 Mary Chalk, 660 feet south and 1,320 feet west of the NE cor. of Section 124, Block 29.

REPUBLIC

Hydrostatic Testing

Each length of Republic Wrought Steel Pipe must pass the hydrostatic test required by the specifications.

In the picture you will see the gauge and pressure on the pipe. No detail is overlooked in producing a good, reliable oil country product.

Write for Quotations.

Tubing—
Casing—
Line—
Drive—
Rotary
Drill
Pipe

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GENERAL OFFICES: REPUBLIC BLDG., YOUNGSTOWN, OHIO

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ASCO
STEEL
STANDS SUPREME

Our metallurgists are men who have had first hand experience in the Oil Fields. They have studied the performance of Oil Well Tools under the most trying conditions. Asco Steel is being produced to meet these conditions and the increasing demand has proven all that we claimed for it.

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THE ANDREWS STEEL CO.
NEWPORT KENTUCKY

Standardized
as the roller bearing for oil field service by leading manufacturers of crown and traveling blocks, reverse clutches, hoists and winches

NO WEIGHT TOO GREAT
AMERICAN
HEAVY DUTY
Roller
Are specially designed and made for use in oil field service.

TYPE "C"
Bearings
Get them in the first place—Use them to replace plain bearings.

These manufacturers always use them.

American Well & Prospecting Co.
Boykin Machinery & Supply Co.
Hopper Machine Company
Latex Iron & Steel Works, Inc.
Lucey Manufacturing Co.
Lee C. Moore & Co.
Oil Well Supply Co.
Portable Rotary Rig Co.
Star Drilling Machine Co.

WRITE FOR CATALOGUE 1006

AMERICAN ROLLER BEARING CO.
PITTSBURGH, PENNA.

W. & N. W. Survey. Same company's No. 4 Sarah Hyman, 660 feet north and 1,980 feet east of the SW cor. of Section 113, Block 29, W. & N. W. Survey. Same company's No. 2 Dora Roberts, 330 feet south and 2,310 feet east of the NW cor. of Section 157, Block 29, W. & N. W. Survey.

Jack County

Buttram Petroleum Co.'s No. 5 J. A. Jones estate, 900 feet north and 300 feet east of the SW cor. of Section 5, S. P. RR., A-550. Same company's No. 6 J. A. Jones estate, 300 feet north and east of the SW cor. Section 5, S. P. Ry., A-550. Connell & Wilson's No. 3 James Ellis and others, 150 feet south and 450 feet east of the most westerly NW cor. of Section 4, J. W. Williams Survey, A-877. Dale Oil Corp.'s No. 2 William Hanna, 469 feet south and 1,800 feet east of the NW cor. of Section 3,313, T. E. & L. Same company's No. 3 William Hanna, 469 feet south and 1,200 feet east of the NW cor. of Section 3,313, T. E. & L.

J. M. Ellis Jr., No. 1 J. Ellis and others, 1,197 feet south and 150 feet west of the most westerly NW cor. of the B. B. B. & C. Survey, A-93, and located in Section 4, J. W. Williams Survey, A-877. P. K. French's No. 1 M. J. Davis, 1,000 feet north and 150 feet east of the SW cor. of the John Little Survey, A-2,272. W. H. Henderson's No. 1 J. B. Jackson, 150 feet south and east of the NW cor. of the J. B. Jackson 320-acre tract out of Section 1, S. P. RR., A-578.

A Lydecker's No. 1 H. C. Moore, 150 feet south and 300 feet east of the NW cor. of the east 50 acres of the south 100 acres of the H. C. Moore 160-acre tract out of Section 8, S. P. R. R. A-1,051. Radford & Sunday's No. 1 R. H. Jackson, 2,025 feet north and 450 feet east of the SW cor. of the R. H. Jackson 230-acre tract out of the H. H. Fuqua Survey, A-217. Shaw & Rathke's No. 5 J. W. Cullers and others, 134 feet north and 665 feet west of the most easterly SE cor. of their 80-acre lease out of Section 4, S. P. R. R. A-2,188. L. Spoonts' No. 1 J. B. Martin, 150 feet south and 900 feet east of the NW cor. of the J. B. Martin 126.15-acre tract out of Section 1, J. W. Williams Survey, A-877.

Thedford Brothers' No. 5 Richards & Lanier, 1,170 feet south and 450 feet east of the most westerly NW cor. of the B. B. B. & C Survey, A-93. Webb & Jordan's No. 1 C. C. Welch and others, 1,120 feet south and 150 feet west of the NE cor. of the J. Stoneman Survey, A-1,183. Williams and others' No. 1, Mrs. R. L. Carpenter, 150 feet south and east of the NW cor. of the east 80 acres of the west 132.5 acres of Section 3,326, T. E. & L.

Montague County

Lesh-McCall and others No. 1 Mrs. A. B. Hinton, 2,470 feet north and 1,847 feet east of the NW cor. of the J. A. Williamson 80-acre tract and located on the Mrs. A. B. Hinton 1,056-acre tract out of the Alex Coats Survey, A-129, being 150 feet south and west of the NE corner of their 37.4-acre lease. Siegler-McGinley and others' No. 1 W. E. Paine, 500 feet south and 1,000 feet east of the NW cor. of the W. E. Paine 476-acre tract out of the William Donoho Survey, A-178.

Pecos County

Humble Oil & Refining Co.'s No. 5 Mrs. M. A. Smith, 275 feet south and 330 feet east of the NW cor. of Section 36, Block 194, G. C. & S. F. Marland Oil Co.'s No. 9 I. G. Yates-A, 614 feet south and 330 feet east of the NW cor. of the E half of Section 60, Block 1, I. & G. N. Same company's No. 10 I. G. Yates-A, 1,493 feet south and 330 feet east of the NW cor. of the E half of Section 60, Block 1, I. & G. N. McMan Oil & Gas Co. and Marland Oil Co.'s No. 13 I. G. Yates, 275 feet north and 330 feet east of the NW cor. of Section 36, Block 194, G. C. & S. F., and located in Section 34½. Same company's No. 14 I. G. Yates, 275 feet north and 330 feet west of the NW cor. of Section 36, Block 194, G. C. & S. F., and located in Section 34½.

Mid-Kansas Oil & Gas Co.'s No. 15 I. G. Yates-A, 250 feet south and 2,390 feet east of the SW cor. of Section 61, Block 1, I. & G. N., and located in the I. G. Yates Survey, A-8,195. Same company's No. 18 I. G. Yates-B, 1,628 feet north of the south line and 150 feet west of the east line of Section 61, Block 1, I. & G. N. Survey. Same company's No. 19 I. G. Yates-B, 260 feet south and 2,142 feet east of the NW cor. of Section 61, Block 1, I. & G. N. Same company's No. 20 I. G. Yates-B, 811 feet south and 2,390 feet east of the NW cor. of Section 61, Block 1, I. & G. N. Same company's No. 21 I. G. Yates-B, 811 feet north and 2,390 feet east of the SW cor. of Section 61, Block 1, I. & G. N. Same company's No. 22 I. G. Yates-B, 250 feet north and 2,390 feet east of the SW cor. of Section 61, Block 1, I. & G. N.

Mid-Kansas Oil & Gas Co.'s No. 7 Smith-Taylor, 2,784 feet south and 250 feet east of the NW cor. of Section 33, Block 194, G. C. & S. F. Same company's No. 8 Smith-Taylor, 2,784 feet south and 785 feet east of the NW cor. of Section 33, Block 194, G. C. & S. F. Same company's No. 9 Smith-Taylor, 1,714 feet south and 1,320 feet east of the NW cor. of Section 33, Block 194, G. C. & S. F. Roxana Petroleum Corp.'s No. 3 Mrs. M. A. Smith, 330 feet south and 1,219 feet west of the NE cor. of Section 27, Block 194, G. C. & S. F. The California Co.'s No. 8 Mrs. M. A. Smith, 1,702 feet north and 330 feet east of the SW cor. of Section 35, Block 194, G. C. & S. F. Same company's No. 9 Mrs. M. A. Smith, 840 feet south and 1,565 feet west of the NE cor. of Section 35, Block 194, G. C. & S. F.

Tom Green County

Haulbet and others' No. 1 Johnson, 1,200 feet south and 1,319 feet east of the northwest corner of the Christian Keiser Survey No. 164.

Throckmorton County

Falls Production Co.'s No. 4 M. K. Graham, 800 feet south and 525 feet east of the NW cor. of the SW of Section 992, T. E. & L. Parker and others' No. 4 J. A. Matthews, 650 feet south and 1,000 feet west of the NE cor. of Section 231, Block 10, E. T. R. R.

Shackelford County

Big State Oil Co.'s No. 3 Russ-Webb, 450 feet north and 150 feet west of the SE cor. of the NW of Section 22, Block 11, T. & R. R. R.

Stephens County

G. L. Lyda and others' No. 1 J. L. Andrews, 150 feet north and 1,170 feet west of the SE cor. of the N half of Section 39, Block 7, T. & P. R. R. Texas Fidelity Oil Co.'s No. 1 J. M. Cook, 1,320 feet south and west of the NE cor. of the SE of Section 22, Block 6, T. & P. R. R.

Wichita County

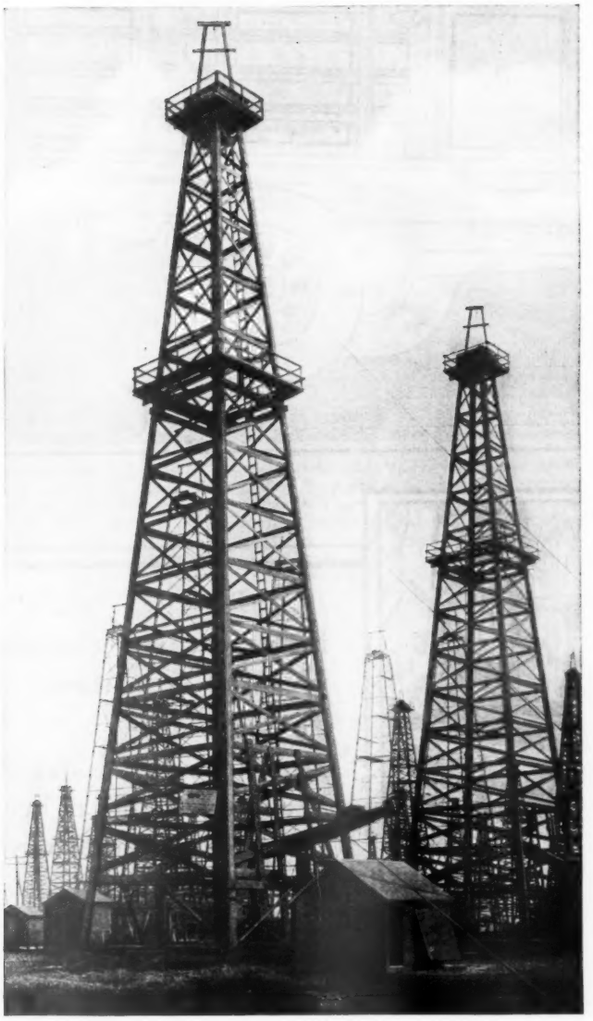
Lenoir Oil Co.'s No. 2 R. Nitschke and others, 150 feet south and west of NE cor. of the west 62.15 acres of the R. Nitschke and others' 102.15-acre tract out of Section 2, Denton County School Land, League 4, A-417. Lenoir Oil Co.'s No. 3 R. Nitschke and others, 90 feet south and 600 feet east of the NW cor. of Section 13, Denton County School Land, League 4, A-417. T. Lomax and others' No. 1 J. M. McCormick and others, 194 feet south and 564 feet west of the NE cor. of the south 40 acres of the east 80 acres of Section 6, Palo Pinto County School Land, A-241. W. H. Hammon and others' No. 2 S. H. McCarty-C, 150 feet south and west of the NE cor. of the west 40 acres of the east 60 acres of the W. R. Eaves Survey, A-447.

O'Donohoe & Gates' No. 3-Deep, M. A. Love, 600 feet south and 150 feet west of the NE cor. of the West 10 acres of the south 25 acres of Lot No. 11, W. S. Kennard Survey, A-171. John O'Neil's No. 2 C. A. Allingham-B, 1,650 feet north and 1,937 feet west of the SE cor. of Section 32, Block 5, H. & T. C. Survey, being 150 feet south and east of the NW cor. of his 43.1-acre lease. Petroleum Producers Co.'s No. 5-Deep, M. A. Love-B, 450 feet south and 150 feet east of the NW cor. of the east 15 acres of the south 25 acres of Lot No. 11, W. S. Kennard Survey, A-171.

Wilbarger County

Consolidated Oil Co. and others' No.

2750 Feet In Five Days!



FROM the Spindle Top Field of Texas this record-breaking performance was recently reported. A clipping from the Beaumont Enterprise of Beaumont, Texas, reads:

> ...ility:
> Yount-Lee Davis No. 2 which was started Saturday, will probably set a record for the number of days to be spent on drilling, it was indicated today when it was learned that approximately 500 feet a day has been made in the hole since the time it was started. The first day the driller made around 700 feet. It is estimated that this well will take but five drilling days before the contract depth is reached.
> RAIN HAMPERS TRA...

Here's what actually did happen. The well was drilled the required depth of 2750 feet in five days with *only 6 Stellited bits.*

An unusual performance! Yet Stellited tools usually give unusual performances. And there is nothing particularly strange about this because Haynes Stellite (the metal with which Stellited tools are faced), resists abrasion better than any other metal.

Try out Haynes Stellite yourself. You can make Stellited bits right in your own shop. Simply melt a rod of Haynes Stellite in the oxy-acetylene flame and deposit a coating of the metal on the heated surface of the bit.

Our booklet, "Haynes Stellite in the Oil Fields," will interest you. It explains the procedure in detail.

HAYNES STELLITE COMPANY
Unit of Union Carbide and Carbon Corporation
Kokomo, Indiana

UCC

DISTRICT SALES OFFICES

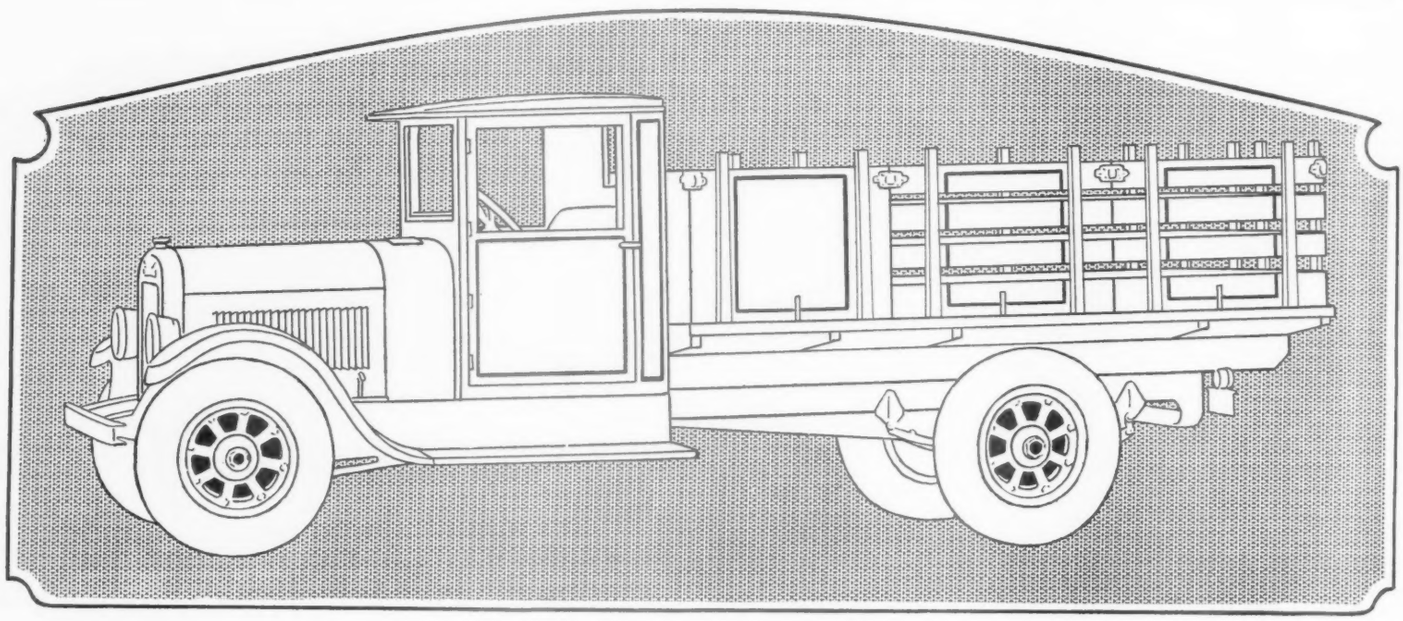
Chicago—*1949 Peoples Gas Bldg.*
Cleveland—*628 Keith Building*
Detroit—*4-240 Gen'l Motors Bldg.*
Houston—*6119 Harrisburg Blvd.*
Los Angeles—*1310 Santee Street*
New York—*30 East 42d Street*
San Francisco—*114 Sansome St.*
Tulsa—*Exchange Nat. Bank Bldg.*

General Offices—Kokomo, Indiana

Stelliting with

HAYNES STELLITE

Swifter, Surer, Safer Winter Hauling



It takes more than slush and sleet to slow up the new Master Speed Wagon when roads run with liquid mud and the Winter wind shrieks through the derricks.

It takes more than 24-hour service and the constant strain of heavy loading to daunt the 6-cylinder speed and power, the 4-wheel braking, and the superior staunchness that new Master Speed Wagons have.

For the new Master Speed Wagons are built to keep the pace of production swift—to accomplish more work more easily—under any condition of road or weather. Be sure to try one out.

REO MOTOR CAR COMPANY, *Lansing, Michigan*

A Speed Wagon For Every Trucking Need

JUNIOR
Capacity up to one-half ton
Chassis, $895

MASTER
Capacity up to two tons
Chassis, $1645

STANDARD
Capacity up to a ton and a half
in 2 wheelbases at $1345 and $1445

HEAVY DUTY
Capacity up to three tons
Chassis, $2185
Special Dual Internal Brakes

Prices at Lansing

6 Cylinder 4 Wheel Brakes

SPEED WAGON

Coupe Cab

for faster, surer, easier, cheaper hauling

1 W. O. Anderson, 150 feet north and east of SW cor. of Section 81, Block 14, H. & T. C. Survey. Norwood & Dorsey's No. 1 J. M. Wells, 150 feet north and east of the SW cor. of Section 47, Block 16, H. & T. C. Survey. Phillips Petroleum Co.'s No. 1 W. T. Waggoner-GG, 266 feet south and 268 feet west of the SE SE of Section 43, Block 4, H. & T. C. Survey. Same company's No. 18 W. T. Waggoner-NN, 1,735.5 feet north and 268 feet east of the SW cor. of Section 42, Block 4, H. & T. C. Survey, being 266 feet north and 268 feet east of the SW cor. of their 28.5-acre "NN" lease.

The Texas Company's No. 2 W. T. Waggoner-B, 205 feet south and east of the NW cor. of the NE of the NW of Section 17, Block 4, H. & T. C. Survey. Same company's No. 1 W. T. Waggoner-E, 205 feet south and east of the NW cor. of the SW of the NW of Section 24, Block 4, H. & T. C. Survey. Waggoner Refining Co.'s No. 4 W. T. Waggoner-C, 150 feet south and 1,080 feet west of the NE cor. of the SW NW of Section 44, Block 4, H. & T. C. Survey.

Winkler County

Southern Crude Oil Purchasing Co.'s No. 1 Ida Hendrick, Tract 88-I, 2,310 feet south and 330 feet west of the NE cor. of Section 30, Block B-5, School Land. Same company's No. 1 E. G. Hutchings, Tract 90, 2,310 feet north and 330 feet west of the SE cor. of Section 47, Block 26, School Land. L. C. Turman and others' No. 3 Ida Hendrick, 1,650 feet south and 330 feet west of the NE cor. Section 29, Block B-5, School Land.

Young County

C. W. Clark and others' No. 2 M. Howell, 150 feet north and 450 feet east of the SW cor. of the E half of SE of Section 1,394, T. E. & L. Continental Oil Co.'s No. 1 E. M. Eichelberger, 150 feet north and 842 feet west of the SE cor. of Section 1,449, T. E. & L. Robert Oil Corp. and others No. 3 J. E. Keen, 150 feet south and 1,461 feet east of the northwest corner of the J. E. Keen 250-acre tract out of Section 3,401, T. E. & L. F. Mann & F. Forbes' No. 1 W. W. Martin, 160 feet south and 1,450 feet west of the northeast corner of the B. Hill Survey, A-137. E. R. Riggs and others' No. 1 W. Goldston, 200 feet south and east of the NW cor. of the SE of the NE of Section 10, S. P. R. R., A-1,693.

Corrected Locations

In Archer County — Carey & Rhader's No. 1 W. R. Farmer, 1,725 feet south and 2,742 feet east of the NW cor. of Section 1, J. Poitevent Survey, A-347, and located in Section 2, North Anderson Ranch Subdivision. Same company's No. 2 W. R. Farmer, 2,950 feet south and 2,742 feet east of the NW cor. of Section 1, J. Poitevent Survey, A-347, and located in Section 2, North Anderson Ranch Subdivision. H. Ferguson and others' No. 1 W. R. Farmer, 1,400 feet south and 4,100 feet east of the NW cor. of Section 1, J. Poitevent Survey, A-347, and located in Section 2, North Anderson Ranch Subdivision. Lee Wilson's No. 1 W. R. Farmer, 1,725 feet south and 3,342 feet east of the NW cor. of Section 1, J. Poitevent Survey, A-347, and located in Section 2, North Anderson Ranch Subdivision. Same company's No. 2 W. R. Farmer, 2,950 feet south and 3,342 feet east of the NW cor. of Section 1, J. Poitevent Survey, A-347, and located in Section 2, North Anderson Ranch Subdivision.

In Montague County—Continental Oil Co.'s No. 1 A. B. Hinton, 3,915 feet south and 200 feet west of the northeast corner of the Alexander Coats Survey A-129, being 946 feet north and 200 feet west of the southeast corner of their 100-acre lease. Same company's No. 2 A. B. Hinton, 4,215 feet south and 800 feet west of the northeast corner of the Alexander Coats Survey, A-129, being 646 feet north and 800 feet west of the southeast corner of their 100-acre lease. Same company's No. 3 A. B. Hinton, 2,630 feet south and 1,642 feet west of the northeast corner of the Alexander Coats Survey, A-129, being 200 feet south and 150 feet east of the northwest corner of their 100-acre lease. The Texas Company's No. 1 A. B. Hinton, 2,280 feet south and 150 feet west of the northeast corner of the Alexander Coats Survey, A-129, being 150 feet north and west of the southeast corner of their lease. Same company's No. 2 A. B. Hinton, 2,230 feet south and 1,592 feet west of the northeast corner of the Alexander Coats Survey, A-129, being 200 feet north and east of the southwest corner of their 100-acre lease.

In Young County — C. W. Clark and others' No. 1 M. Howell, 150 feet north and 150 feet east of the SW cor. of E half of the SE of Section 1,394, T. E. & L. Robert Oil Corp. and others' No. 2 J. E. Keen, 150 feet south and 1,010 feet east of the northwest corner of the J. E. Keen 250-acre tract out of Section 3,041, T. E. & L.

In Coleman County — Chestnut & Smith's No. 1 J. P. Morris, 4,020 feet south and 2,920 feet east of the northwest corner of the William Webber Survey No. 722.

COMPANY COMPLETES EXPANSION PROGRAM

(Continued from Page 64)

engage in the making of a general line of oil field equipment.

Delbert F. Axelson, assistant general manager and vice president, is now in the St. Louis plant personally supervising the final installation of equipment which will more than double the production capacity of the St. Louis division—in fact, almost triple it. Such a move, according to Clyde Ellwood, director of sales, was necessitated by reason of the heavy demand for sucker rods in the Mid-Continent and eastern fields which heretofore has compelled the eastern factory to operate on a three-shift basis much of the time.

A cash outlay of $150,000 has been required to enlarge the St. Louis plant. During this expansion, however, the regular production of the plant was not interfered with.

Every detail of installation was carefully analyzed and arranged by the engineers, so that each move would take place in the most efficient manner and without confusion. Works Manager Abe Haglund and Chief Engineer William Yardh have made several trips to the St. Louis plant for the purpose of working out details.

Large Investment Involved

Innumerable refinements in sucker rod manufacturing development by the Axelsons, particularly in the past 18 months, have resulted in the conception and construction of special equipment requiring a large investment, which is expected to be offset by increased economies in production and more highly developed means of obtaining accuracy in finish and treatment of the steel.

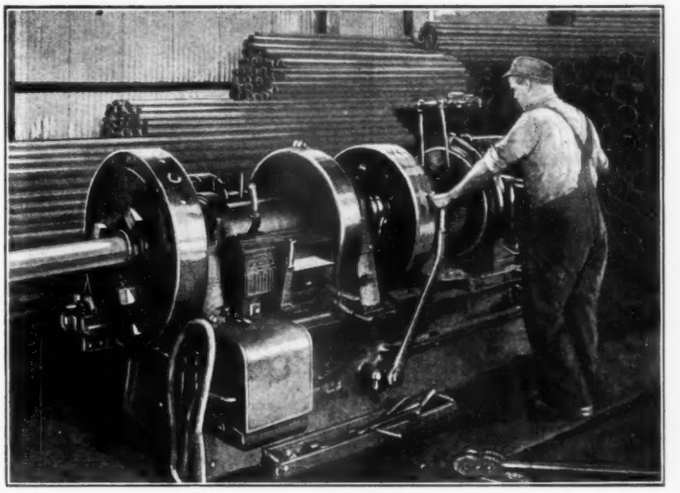
In the Los Angeles plant a minimum of $100,000 has been expended to install additional units of sucker rod facilities and for specially designed machinery to produce pump parts on a more highly systematized basis. This work is to be completed by January 1.

Some idea of the extremes taken in increasing the efficiency of factory production is obtained from the fact that a single new machine, which will perform the work that ordinarily requires three machines and three operators, yet occupying the space of one machine, has been designed and is being installed at a cost of $20,000. All other equipment has been designed with the idea of cutting costs in production and to accomplish work with greater accuracy by mechanical means.

No additional factory space is required for this $250,000 expansion as this move was anticipated when the original buildings were constructed, according to Ellwood.

Specializing on One Unit

"The company does not contemplate the manufacture of any equipment for the oil industry other than pumps and sucker rods, as we have learned from years of experience that specialization on one unit in the industry offers ample opportunity to serve and by applying our time, thought and effort to pumps and sucker rods we



New Threads on all your pipe!

Every length of Greenspon's used pipe has new threads and new couplings. Every length is rigidly inspected and is guaranteed. You can save real money on Greenspon's pipe, stocked in all sizes for immediate shipment. ODEE pipe for gas lines saves you 50% of field welding. Casing in all sizes, too! Write, wire or phone for quotations.

Jos. GREENSPON'S Sons
Iron & Steel Company
General Office: St. Louis *Branch:* Tulsa, Okla.

"A REAL OIL COUNTRY BELT"

O AND G

OIL GAS

Pumping—Drilling — Compressor
Double-Stitched

BELTS

RUGGED DURABLE

Not just A belt but a REAL POWER TRANSMITTER

ECONOMICAL

Manufactured by

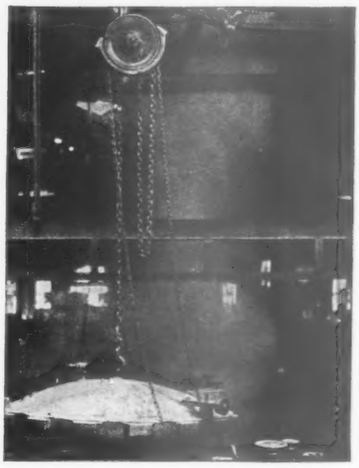
IMPERIAL BELTING CO., Chicago

Sold by

OIL WELL SUPPLY CO.

In All Fields

In an atmosphere charged with steam, dust and moisture, these Triblocs have established their worth by maintaining their operating efficiency for more than 10 years under these conditions.



TRIBLOC
¼ to 2-ton size

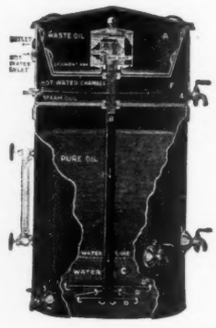
Ford Tribloc Chain Hoists have endurance second to none

Wherever gruelling jobs are to be done, there you will find Triblocs definitely showing why Triblocs are used for the most exacting oil field hoisting.

Jobs differ, but the same reliable endurance is exacted from chain blocks, whatever the work may be. In the shop pictured above, Triblocs have demonstrated their endurance and reliability under conditions which would have destroyed any hoist less sturdy than a Tribloc.

FORD CHAIN BLOCK COMPANY
2nd and Diamond Sts., Philadelphia, Pa.

Does the filtering of heavy oil present a difficult problem? . . . . .



Anyone who has attempted to filter heavy oils such as cleaning lard, cylinder, crank case and the like, knows that the ordinary type filter becomes quickly clogged making the operation almost impossible. In the American type filter we have designed a hot water chamber at the top, surrounding the unfiltered oil, which renders it thin and easy flowing making what is difficult or impossible in the case of other filters, easily accomplished by the American. Write for prices.

Do You Burn Fuel Oil?

If so we can keep your burners free from grit or dirt, hence insuring perfect combustion and a clean steady flame at all times. Specially designed and packed Burt filters do the work—write for details.

Crankcase Oil Can Be Reclaimed

so as to give same efficient service as regular fuel oil and at practically no cost. Service stations would probably be glad to have you haul it away. Also provides storage capacity which can be increased if necessary with a Burt Oil Reservoir.

THE BURT MANUFACTURING COMPANY
929 S. High Street, Akron, Ohio
Pioneer Oil Filter Manufacturers

can systematize production methods to a far greater extent than if we attempted to cover a wide range of production activities," state Ellwood.

At the present time more than 600 employes are on the Axelson pay roll. The company maintains seven factory branch stores in California and has its factory representatives and field service men reaching all fields in the Mid-Continent and the East. Through Frick-Reid Supply Co. and Frick & Lindsay Co., distribution is carried to every field. Its foreign business has grown to large proportions and has necessitated the establishment of special export departments at Los Angeles and New York City.

Efforts Concentrated

Established in 1892 in Santa Ana by C. F. and G. A. Axelson, the company removed to Los Angeles when the first California oil field was discovered and the founders have guided the organization for more than a third of a century. In all these years the company has concentrated its efforts in the production of pumps and sucker rods.

Eleven years ago the plant was removed to its present seven-acre site at Boyle Avenue and Randolph Street, Huntington Park, while the St. Louis plant was constructed eight years ago.

One of the founders, C. F. Axelson, is still active as executive vice president. G. A. Axelson resigned from the presidency one year ago and the reins were handed to Jule C. Axelson, who has been general manager for many years.

Both Jule C. and Delbert F. Axelson have practically "grown up" with the company, and while young in years, have been associated with the organization for the last 20 years.

Clyde Ellwood became identified with the firm six years ago. He established the majority of service divisions throughout the country prior to his appointment as director of sales. As part of a research and educational program, he visited practically every foreign oil field and is thoroughly conversant with conditions throughout the world.

E. E. Kerfoot was appointed secretary and treasurer a year ago and has been with the company for seven years.

Recently the company placed on production sucker rods based on the official A.P.I. specifications and because of the close similarity of the rod to the standard Axelson rod, were not obliged to make any difficult changes in methods of production. Ellwood states that rods to meet both A.P.I. and Axelson standard specifications will be manufactured in the future.

EASTERN FIELDS

(Continued from Page 62)

In the southeast quarter of Section 9, Brookfield Township, Noble County, the Ohio Fuel Supply Co.'s test on the Riley Harding farm is a light gasser in the Clinton sand. In Lot 25, Newton Township, Licking County, the Vanatta Oil Co.'s test on the W. B. Williams farm is a duster in the Berea grit.

Southwest Pennsylvania

In Perry Township, Greene County, the Moore-Tex Oil Co. is swabbing regularly 50 bbls. a day from its test on the John Lemley farm on Shannon run. From the amount of oil they have been taking from this well, drilled down to the Big Injun sand several weeks ago, leads to the opinion that other good producers can be found in that locality. Previous developments brought gas wells.

In West Bethlehem Township, Washington County, Benedum & Trees have a gasser in the Gordon sand at No. 3 on the R. F. Hill farm. In the same township, Hasinger & Jordan have a gasser in the same formation at a test on the Harriett Hess farm. In the same locality, the Carnegie Natural Gas Co. has a duster at a test on the Jesse Nichols farm.

In Ohio Township, Allegheny County, Martin & Co. have a gasser at a test on the Hannah farm. In Robison Township, Purdy & Getty Brothers' second test on the Getty farm, which came in some weeks ago and showed for a good producer is now making 4 bbls. a day. In Findlay Township, the Fink Oil & Gas Co.'s second test on the Kale heirs' farm is a light gasser. In the same township, Cook & Guyser have started to drill a test on the Cook-Guyser farm. In Greene Township, Beaver County, P. R. Laughlin is drilling a test on the Homer Dawson heirs' farm. In the same township, the Laughner Oil & Gas Co. has a light gasser in the N. Bayless farm.

In East Findlay Township, Washington County, the New Oil & Gas Co. is drilling a test on the George Montgomery farm. In West Bethlehem Township, the Peoples Natural Gas Co. has started to drill on the Mrs. Brown farm. The same company has a rig up on the Collins farm. In the Wexford district, Allegheny County, Beeler & McEvoy have a rig on the Steigerwald farm. In Finley Township, Cook & Guyser have started to drill on the Cook Guyser farm.

KENTUCKY-TENNESSEE

(Continued from Page 58)

24 hours 200 bbls. of crude. Same company's No. 13 on the Fannie Lake 100 acres produced an initial of 100 bbls. A string of 675 feet of casing was set in this well, with sand at 683 to 713 feet, and the hole was sent to a total depth of 735 feet, followed by a 130-quart shot. Guerney Development Co.'s second well on the J. I. Bartlett 10 acres, pumped an initial of 10 bbls. at 627 feet.

In the King Pool, D. T. Bolling and others' No. 3 on the A. D. Dickens 80 acres, was a dry hole.

In the Colyer Pool, Russell and others' No. 1 on the E. E. Fuqua 75 acres is reported a duster.

Daviess County

The test of Overstreet and others on the Shores-Taylor lease, in Daviess County, is a dry hole.

McMahon and others' test on the J. B. Wimp lease, near Pellville, same county, is a duster. Rowe and other's on the Poor farm, is also said to be dry and at last report No. 3 was down close to 1,100 feet without any showing and expected to go down to at least 1,350 feet if oil is not found in commercial quantity at a lesser depth.

Warren County

Southwest of Bowling Green, in Warren County, the Baker-Jones Oil Co.'s No. 8 well, 620 feet from the north line and 200 feet from the east line of the Gillespie 103 acres, pumped an initial of only 1 barrel from the deep sand at 1,060 feet.

Hancock County

Batton & Jamieson are drilling a test north of the field proper, about 3 miles north of Pellville, and near the town of Floral, in Hancock County.

Henderson County

A test being made for oil about 13 miles south of Henderson, in Henderson County, by F. E. Black, of Evansville, on the Bob McDaniel lease, encountered a fair showing of oil at a depth of 647 feet, but continues deeper drilling in hopes of encountering a more prolific pay sand.

Kentucky Geological Reports

A new geological map of Lee County, Kentucky's most prolific oil producing region, is now ready for distribution by the Kentucky Geological Survey, Dr. W. R. Jillson, state geologist, said. The map, made by W. C. Eyl, of Lexington, shows the oil and gas subsurface structural geology of the county, adding that Lee County had produced more oil in the past few years than any other county in Kentucky.

In releasing a few days ago oil and gas maps for every one of the 30 counties in the eastern Kentucky coal field, Doctor Jillson made public announcement of the completion of one of the most comprehensive and detailed pieces of scientific research ever undertaken by a state geological survey. The area covered by this set of maps is fully 10,500 square miles or approximately 25 per cent of the area of Kentucky. It is stated that it is the greatest unit area ever mapped structurally at the scale of one inch equaling one mile.

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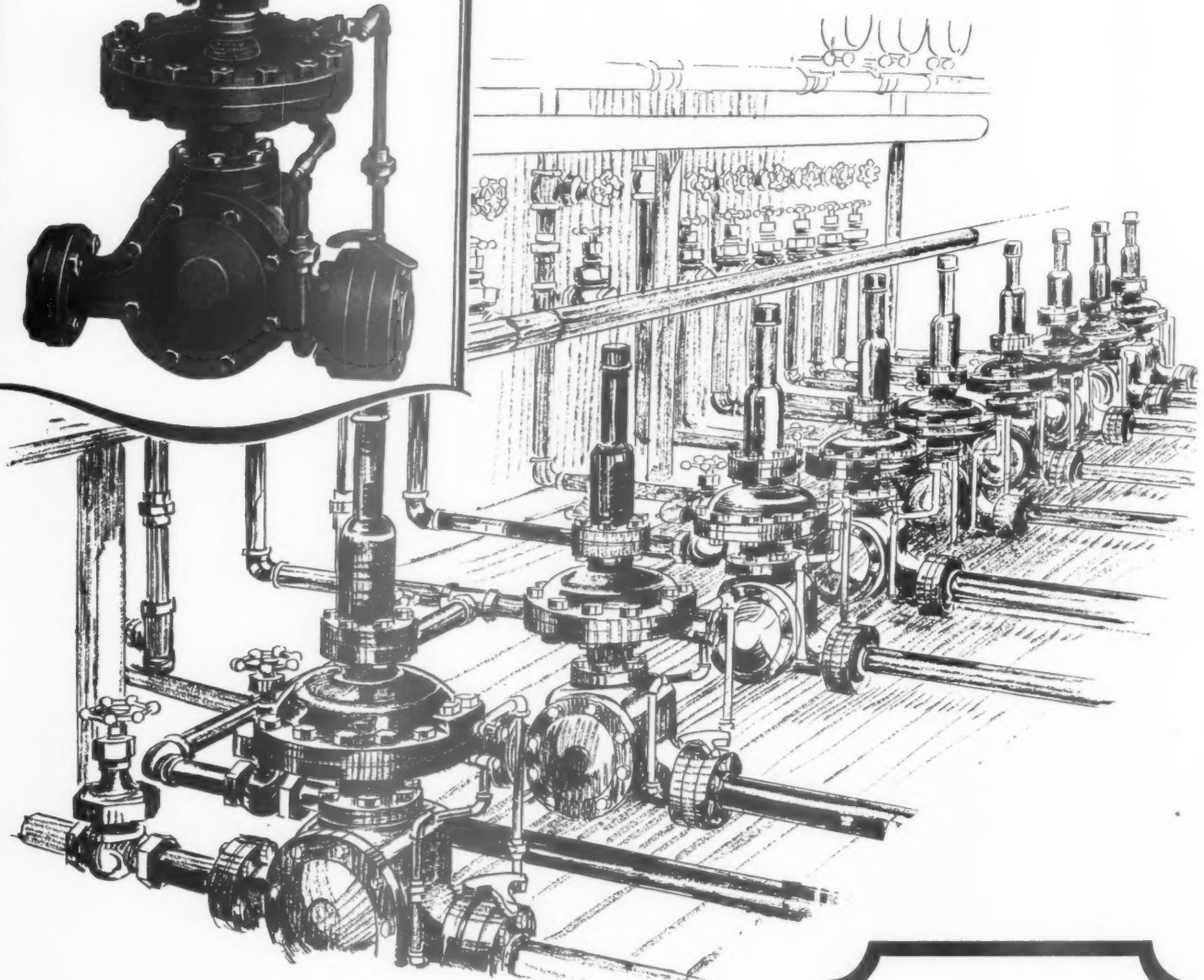

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LOUISIANA-ARKANSAS

(Continued from Page 46)

NW cor. SW Section 14-16-12, for No. 4 Simpson.

Caddo Parish

Pine Island—Arkansas Natural Gas Co. has gone back to No. 1 C. W. Lane, Section 13-21-15, completed May 6, 1926, as a 45,000,000-foot gasser at 3,613 feet and is deepening it. Testing salt water at 4,032 feet after drilling past the 3,900-foot horizon in which it was dry at 3,945 feet, it is coring at 4,034 feet. Dixie Oil Co. has cemented 6⅝-inch casing at 3,669 feet in No. 9 Clark, Section 14-21-15; No. 9 Caddo Mineral Lands, Section 23-21-15, cemented bottom to shut off salt water at 3,909 feet and is drilling cement; No. 90 Dillon in Section 14-21-15, completed last October 16 making 10,000,000 feet of gas at 3,683 feet, is pulling 6¼-inch casing to drill deeper; No. 92 Dillon in Section 13-21-15, is drilling lime at 2,310 feet and No. 4 H. H. Huckaby, Section 11-21-15, is drilling at 3,149 feet.

Gulf Refining Co. lost a bit in the hole and has a fishing job at 3,912 feet on No. 10 Herndon, Section 15-21-15; No. 14 Tyson, Section 14-21-15, being deepened from 3,763 feet, is coring at 3,926 feet. Haynes Brothers, who completed No. 1 Spell in Section 15-21-15, as a 400-bbl. producer at 3,703 feet on August 27 last, have gone back to the location and are coring at 3,853 feet.

Magnolia Petroleum Co. is drilling lime at 3,416 feet on No. 8-A Hampton, Section 15-21-15; No. 21 Robertshaw, Section 23-21-15, is setting 5¾-inch casing at 3,928 feet and No. 22 Robertshaw, in Section 22-21-15, is in lime at 3,000 feet. Ohio Oil Co.'s No. 25 E. K. Smith, Section 12-21-15, is drilling a hard sand at 5,341 feet. The Palmer Corp.'s No. 1 Sellington, Section 17-21-14, is drilling lime at 4,206 feet. Rogers & Jensen have cemented 6-inch casing for a Woodbine sand test in No. 1 Newton Smith, Section 22-20-15. Shreveport Oil Corp. with derrick standing for No. 1 State, Section 28-21-15, and No. 2 State in Section 27-21-15 shut down at 2,400 feet for the past several weeks, has made location for No. 2 Muslow, 1,170 feet north and 150 feet west of the center of Section 32-21-15. Simplex Oil Co. is setting 6-inch casing at 2,200 feet in No. 1 Hunsicker, Section 15-20-15. Superior Oil Co. has made location 1,287 feet west and 990 feet north of the center of Section 26-20-15 for No. 8 Youree.

The Texas Company sidetracked several joints of 4½-inch casing lost in No. 51 Caddo Mineral Lands, Section 23-21-15, and is setting 6¼-inch casing at 3,850 feet, total depth 3,941 feet; No. 51 Caddo Mineral Lands in the same section is arranging to cement 4½-inch casing at 3,942 feet; No. 8 A. Herndon, Section 14-21-15, is drilling lime at 2,410 feet; No. 10 J. K. Herold, Section 14-21-15, is in lime at 3,895 feet; No. 10 Mabry, Section 15-21-15, is in the same formation at 3,844 feet and No. 19 D. H. Raines, Section 15-21-15, tested salt water at 4,025 feet after setting a short string of 4½-inch casing with packer, pulled it and is drilling at 4,030 feet.

Greenwood—Greenwood Production Co. began drilling No. 1 Alexander, Section 27-18-16, December 5 and is at surface casing depth. Magnolia Petroleum Co. is coring lime at 2,518 feet in No. 1 John Furrh, Section 32-18-16. Waterman Brick & Tile Co. cemented 8-inch casing at 895 feet in No. 1 Waterman, Section 18-17-16, evidently for a deep test should the 900-foot horizon fail to yield fuel sufficient for its brick and tile plant at Waskom, Tex.

Mooringsport, Oil City and Hosston—Bee Oil Co. has derrick up for No. 1 Muslow in Section 29-20-15. W. D. Chew is waiting for 6-inch plug to set in No. 7 fee, Section 33-21-16, with casing cemented at 1,800 feet and has derrick up for No. 6 State 350 feet south and 150 feet east NW cor. SW Section 34-21-16. Standish Oil Co. cored into a cavity at 1,048 feet in No. 1 Jolly, Section 22-22-15, and is trying to cement it.

DeSoto Parish

American Controlled Oil Co. cemented 6⅝-inch casing at 2,688 feet in No. 2 Lanier, Section 5-11-11.

Monroe District

Morehouse Parish — Consolidated Carbon Co. set 12-inch surface string in No. 1 Perry, Section 14-20-4e (second hole) at 186 feet. Natural Gas Products Co. drilled 6-inch plug from No. 10 Tensas Delta, Section 27-22-4e, at 2,165 feet and is bailing at 2,220 feet.

Ouachita Parish—Imperial Oil & Gas Products Co. cemented 8-inch casing at 808 feet and is drilling No. 3 Stubbs, Section 13-19-3e, at 900 feet. Ouachita Natural Gas Co.'s No. 2-A D'Arbonne, Section 34-19-3e, is drilling 6-inch plug at 2,167 feet; No. 7 Smith, Section 38-20-4e, is drilling at 1,885 feet. The Palmer Corp. is rigging up to drill No. 1 West Virginia Timber Co. in Section 5-18-4e. Southern Carbon Co. cemented 6-inch at 2,098 feet in No. 8 Fairbanks, Section 38-19-4e. United Carbon Co. began drilling No. 2 Nelson fee, Section 6-19-5e, December 4 and is down 120 feet. West Virginia Oil & Gas Co. cemented 8-inch casing at 980 feet in No. 5 fee, Section 5-18-4e, and is drilling at 1,500 feet.

Union Parish—Barbour Oil Co., which recently took over J. E. Cammatte's old No. 1 Tugwell in Section 21-22-1e, and started operations with a fishing job at 2,060 feet (corrected depth) got the lost drill stem out of the hole and is washing to bottom at 2,080 feet. Carter & Goodwin swabbed a little oil and more salt water at 2,245 feet in No. 1 Security, Section 7-23-1e, cored salt water sand at 2,245-47 feet and are shut down waiting orders. John Potts, trustee, has made location for No. 1 Bernstein in the SW cor. NW, Section 30-20-4e.

Red River Parish

J. H. Askew began drilling No. 2 Richardson, Section 25-13-11, November 30, set 10-inch surface string at 102 feet and has cemented 6-inch casing at 2,477 feet.

Richland Parish

Gulf Refining Co. is drilling No. 1 Millsaps, Section 8-17-6e, at 1,873 feet. Moody-Seagraves' No. 1-B Hemler, Section 20-16-6, has cemented 6-inch casing at 2,285 feet; No. 2-B Hemler in Section 6-15-6, is drilling at 1,968 feet; No. 1-C Hemler has rig up ready to drill and No. 2 McClanahan, Section 36-16-5, is bailing 6-inch casing at 2,296 feet. Their No. 1 Noble, Section 36-16-5, is drilling at 1,940 feet and No. 1 Osborn, Section 14-15-5, is drilling at 1,100 feet.

Natural Gas & Fuel Co. has cemented 6⅝-inch casing at 2,282 feet in No. 1-A Sartor, Section 9-16-6, and No. 2-B Sartor, Section 19-16-6, is drilling 6⅝-inch plug at 2,279 feet. Ouachita Natural Gas Co. made location for its No. 1 Cummings, 1,320 feet north and 660 feet west SE cor. Section 24-17-5. Roxana Petroleum Corp.'s No. 2 Tensas Delta Land Co., Section 1-14-5, is drilling shale at 2,590 feet. Southern Carbon Co. is drilling at 1,700 feet in No. 1 Sartor, Section 20-18-8; Standard Drilling Co.'s No. 1 Delta Hardwood Co., Section 32-16-7, is shut down at 2,970 feet, and Stovall Drilling Co. is down 1,555 feet with No. 1 Dunning in Section 26-16-6.

Sabine Parish

Magnolia Petroleum Co. is waiting for standard rig to pump No. 2 Rembert, Section 32-10-12, total depth 3,240 feet, and Moffatt and others are also waiting for standard rig to pump No. 3 Moore, Section 5-9-12, total depth 3,332 feet, after it failed to flow through tubing. Seip and others began drilling their No. 1 Moore, Section 33-10-12, December 2; set 10-inch casing at 210 feet and are drilling at 350 feet.

Webster Parish

Cotton Valley—Humble Oil & Refining Co., drilled No. 5 J. Babb, Section 14-21-10, is arranging to cement 11¾-inch casing, A.P.I. standard, at 1,975 feet, having set 458 feet of 15½-inch pipe for surface string. On its No. 1 Gray, Section 26-21-10, it is fishing for drill stem, total depth 3,541 feet. Magnolia Petroleum Co. is drilling No. 1 G. W. Cole, Section 27-21-10, at 3,382 feet; No. 5 Marshall, Section 21-21-10, is bailing 6⅝-inch casing at 2,530 feet and No. 1 J. M. Mixon, Section 22-21-10, began drilling December 5 and has set 13⅜-inch surfac string at 322 feet. Ohio Oil

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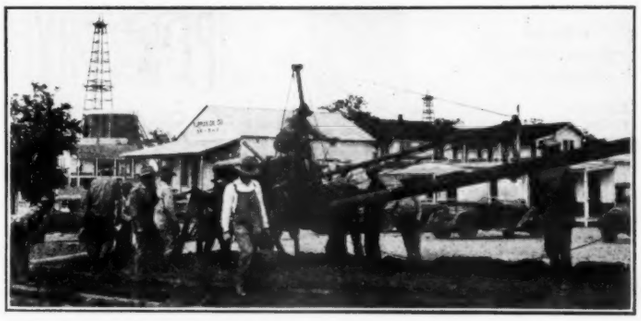

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Co. tested 1,500,000 feet of gas at 4,515 feet in the Trinity lime and is arranging to deepen.

Spring Hill, Sarepta and Shongaloo—Arkansas Natural Gas Co. began drilling No. 1 North Central Texas, Section 36-23-10 December 3 and is drilling below 100 feet. Magnolia Petroleum Co. has derrick up for No. 1 Munn, Section 29-23-9, cemented 6⅝-inch casing at 2,587 feet in No. 1 Newsom, Section 32-23-7, and set 10-inch surface casing in No. 1 W. B. Roseberry, Section 29-23-9. Northwest Louisiana Gas Co. is drilling No. 1 Munn, Section 29-23-9, at 2,525 feet.

ARKANSAS

Ouachita County

Humble Oil & Refining Co. is arranging to make a test of No. 4 Murphy, Section 3-16-15, with 3 feet of sand at 2,579-82 feet. This is an old well in the Graves sand completed July 22, 1925, as a 400-bbl. producer at 2,378 feet. Marine Oil Co., testing salt water at 2,667 feet in No. 8 Hays, Section 4-16-15, also a former completion, cemented back to 2,200 feet and is milling out for a test of the Meakin sand at 2,265 feet, total depth 2,677 feet. Phillips Petroleum Co.'s No. 19 Joyce, Section 33-15-15, another former completion, recemented casing after a salt water test at 2,696 feet and is drilling out plug. Standard Oil Co., deepening No. 5 Umstead, an old completion in Section 32-15-15, is in sandy lime at 2,530 feet. Completed June 29, 1924, it was a 30,000,000-foot gas well at 2,267 feet.

Stephens—Standing shut down at 2,075 feet since August 31. Buffalo Oil Co.'s No. 3 Culp in Section 22-15-19, is washing to bottom, cleaning out preparatory to making a completion of it.

Union County

Campagnolle—After setting 3-inch tubing with packer at 2,765 feet, Garrett-Modisett Drilling Co.'s No. 1 Gregory, Section 10-17-14, would not flow and when put on the beam pumped 350 bbls. fluid, 12 per cent salt water, from 4 feet of sand at 2,761-65 feet and is shut down waiting orders. Eddie Jones began drilling his second well, No. 2 Crain, in Section 2-17-14 December 4 and has 10-inch surface string set at 210 feet; No. 3, same lease and section, has rig up. Ohio Oil Co. cemented 6⅝-inch casing at 2,990 feet in No. 3 Crain, Section 1-17-14, and at 3,044 feet in No. 5 Crain in the same section. No. 6, same lease and section, began drilling December 4 and is down 212 feet and No. 7 is rigging up. Nos. 1 and 2 Goode, Section 2-17-14, are rigging up, the latter a new location in the NE cor. NW SE of the section; No. 1 R. Pumphrey, Section 1-17-14, is drilling at 2,942 feet; No. 2, in Section 2-17-14, began drilling December 1 and set 10-inch surface string at 338 feet and No. 3 has rig up ready to drill. No. 1 W. Pumphrey, Section 1-17-14, drilled 6⅝-inch plug at 2,994 feet, bailed down 2,700 feet with no show of oil from 6 feet of sand at 2,988-94 feet.

El Dorado East Side and Smackover—Grimes Brothers began drilling No. 9 Van Hook, Section 7-18-14, El Dorado East side, December 4, and set 10-inch casing at 160 feet. Magnolia Petroleum Co. made a test of No. 7 Wilson, Section 17-16-15, Norphlet district of Smackover, at 2,480 feet, getting 500 feet of oil, and is reaming to set 6⅝-inch casing.

EAST TEXAS

Harrison County

Daney and others are waiting for cement to set after cementing 6-inch casing at 986 feet in No. 1 Furrh in the Joel Lipscomb Survey. Mitchell and others tested dry at 956 feet in No. 1 Jones, Joel Lipscomb Survey, and have resumed drilling. State Line Oil & Gas Co.'s No. 2 Mullins, T. D. Wilson Survey, is bailing to test, total depth 986 feet; No. 5 C. M. Abney estate is coring at 2,843 feet.

Panola County

Bethany Oil & Gas Co.'s No. 3 Burns, W. A. Birdsong Survey, is drilling at 750 feet. Magnolia Petroleum Co. set surface casing at 127 feet and is drilling at 650 feet on No. 2 Sol Oden in the E. F. Mitchell Survey; No. 1 J. M. Trosper, on the James Shadoin Survey, is drilling shale and lime at 2,362 feet.

Shelby County

Magnolia Petroleum Co. is fishing for drill stem twisted off at 3,273 feet in No. 1 Pickering Lumber Co. on the W. J. Crane Survey.

LA.-ARK. WILDCATS

(Continued from Page 46)

ing arrangements to drill a deep test in which several of the major companies will have an interest.

Recollections of the flurry early in 1924 that had the Oakland district of Union Parish as its locale are brought to mind by a report that Carter & Goodwin have been swabbing a little oil with salt water from a sand at around 2,245 feet in their No. 1 Security, Section 7-23-1e. They cored 2 feet further into the formation, which proved to be a salt water sand at that depth and are shut down waiting orders. The 1924 excitement followed completion by Palmer & Davidson of No. 1 Frost-Johnson Lumber Co. in Section 18-23-1e, as a pumper making 30 bbls. of oil and with salt water, total depth 2,217 feet. This well was followed by a dozen or more drilled by the same operators, Gulf Refining Co., Lide and others, R. E. Allison and others, which developed about 100 bbls. production but most of which proved salt water.

There were six wildcat completions in north Louisiana and Arkansas territory during the week, three of which were successful. Woodley Petroleum Co. completed No. 4-B Knight in Section 2-15-12 in the southeastern corner of Caddo Parish, where a half dozen or so small gas wells have been completed, making 1,500,000 feet of gas, total depth 2,463 feet.

Magnolia Petroleum Co. completed No. 1 Logan in Section 17-10-12, DeSoto Parish, making 13 bbls. on the beam, total depth 3,265 feet, about 2½ miles north of Pleasant Hill production. The third success was W. R. Keever's No. 4 Ezell in Section 12-17-15, Union County, Arkansas, just south of the southern limits of Smackover production.

In Morehouse Parish, Louisiana, Keisker and others' No. 1 Bonita Lumber Co. is dropped from the field report with the notation derrick abandoned. In Section 10-22-9e, the location was never drilled, though derrick was built August 10. Lawson & Pharis abandoned No. 1 Dave Delrie in Section 18-5-5 as a dry hole at 1,360 feet, one of the structure tests referred to above. H. M. Roark abandoned No. 3 Southern Minerals Co., Section 19-11-3w, Winn Parish, on the west side of the Winnfield lime or salt dome, in rock salt at 525 feet. The salt was topped at 490 feet.

NORTH LOUISIANA

Bienville Parish

Lake Bisteneau Gas Co. is coring No. 1 State, Section 16-16-10, at 2,526 feet. Louisiana Petroleum Co.'s No. 1 Hays, Section 18-16-5, is shut down at 2,430 feet.

Bossier Parish

Doern and others' No. 1 Bollinger, Section 9-22-11, is running core barrel at 3,035 feet. H. S. Goodwin succeeded in killing a flow of 5,000,000 feet of gas and 5,000 bbls. of salt water at 2,604 feet in No. 1 Curtis, Section 2-16-13, which blew in last week while drilling, and is arranging to set a string of 4½-inch casing. Hamiter and others have begun drilling No. 1 Hamiter, Section 10-23-13, and set surface casing. Walker and others' No. 1 Antrim, Section 28-22-13, is drilling at 2,425 feet.

Caddo Parish

Arkansas Natural Gas Co. has acquired a block or acreage in the south central part of the parish about 15 miles southwest of Shreveport and has derrick up to drill No. 1 Alexander, 660 feet north and 657 feet west of the center of Section 20-16-15. This is about 6 miles east of production in the old Bethany gas field. Greenwood Production Co.'s No. 1 Cooper & Ellerbe in Section 15-18-14, just north of Shreveport city limits, drilled into a sand at 1,893 feet corresponding to the second sand in Waskom and is preparing to make a test of the

Blossom at around 1,946 feet. Last week the wildcat tested 500,000 feet of gas at 935 feet in the Waskom (Greenwood) shallow pay. Should the test result in a commercial well it would open a new gas district 15 miles east of present production in the older field straddling the state line. Ohio Oil Co.'s No. 1 Thompson in Section 32-33-16 is drilling at 3,161 feet. Tubbs and others have cemented 6-inch casing at 2,268 feet in No. 1 Tubbs, Section 9-11-16. Woodley Petroleum Co. is rigging up to drill No. 5-B Knight, a new location 1,580 feet west and 600 feet north SE cor. Section 39-15-12, and Woodley & Collins cemented 6-inch casing at 2,569 feet in No. 1-A McVey, Section 23-19-14.

Catahoula Parish

S. D. Hunter's No. 2 Tensas Delta, Section 21-9-7, is drilling gumbo at 2,786 feet. Lochnager Oil & Gas Co. is drilling out cement at 2,620 feet in No. 2 Beasley, Section 26-9-6, after plugging back from 3,318 feet and No. 1 McMillan, Section 29-9-6, is drilling lime at 2,640 feet. Standard Oil Co.'s No. 1 Tensas Delta, Section 23-8-5, cored a salt water sand at 2,150 feet.

Claiborne Parish

Ohio Oil Co.'s No. 1 C. C. Lee, Section 16-22-8, is drilling at 4,615 feet.

DeSoto Parish

Benson Oil Co. drilled 6⅝-inch cement plug in No. 1 Wolff, Section 3-10-13, and is drilling at 2,800 feet. Dixie Oil Co.'s No. 1 Jenkins, Section 9-12-11, which has been drilling for the past 20 months, is in lime rock at 5,845 feet with 245 feet to go before reaching the level of the record deep test in this territory. Gulf Refining Co.'s No. 18-C Willis Williams in Section 31-13-11, abandoned February 26, 1926, as a salt water test at 6,090 feet. J. W. Downey began drilling No. 1 Dickson, Section 24-14-13, December 1 and has set 10-inch surface string at 100 feet. Foster and others' No. 1 Johnson, Section 7-10-13, is drilling at 650 feet. R. O. Roy has derrick up for No. 1 Lee in Section 33-14-13, the third of the first three wells to be drilled on a block of 16,000 acres, and is rigging up to drill No. 1 Whitaker in Section 5-13-13.

Franklin Parish

Louisiana Petroleum Co. is drilling No. 1 Tensas, Section 11-11-6, at 1,700 feet. Pittsburgh Oil & Development Co.'s No. 1 Moore, Section 12-11-6, reported last week as abandoned on account of salt water at 2,152 feet, is shut down waiting orders.

Grant Parish

W. D. Ball and others are reaming to bottom on No. 1 Calhoun, Section 4-7-4, total depth 1,800 feet.

Rapides Parish

Collins Brothers' No. 1 Allen, Section 25-5-1w, is drilling at 1,200 feet.

Red River Parish

J. H. Askew and others began drilling No. 2 Richardson, Section 25-13-11, November 30, set 10-inch casing at 102 feet and have cemented 6-inch at 2,477 feet.

Sabine Parish

S. P. Logan and others' No. 1 Logan, Section 36-10-13, is drilling at 2,036 feet. Dixie Oil Co.'s No. 1 Steinfelt, Section 20-10-12, is drilling at 1,700 feet. W. G. Doern has made location in Section 17-4-11 for No. 1 Pickering Lumber Co. and is rigging up to drill. L. M. Emlet bailed dry at 3,533 feet on No. 7 Mowman-Hicks in Section 14-7-14, and is bailing for another test after deepening to 3,560 feet and his No. 1 Mansfield Lumber Co. in Section 15-7-14, is shut down at 470 feet on second hole.

Webster Parish

S. A. Lane's No. 1 Miles, Section 24-17-9, is drilling at 1,335 feet.

West Carroll Parish

Palmer Corp. has cemented 6-inch casing at 2,418 feet in No. 1 White, Section 2-19-10, for a test of 16 feet of sand from 2,450-66 feet which developed a show of gas in commercial quantities last week.

Winn Parish

Ohio Oil Co.'s No. 2 Rolan Account 1, Section 5-12-1w, is drilling at 3,093 feet.

ARKANSAS

Columbia County

Sunny Jim Oil Co. which took over to deepen Big Creek Oil Co.'s No. 1 Runyon in Section 3-16-21, which had been abandoned after drilling 800 feet, is drilling gumbo at 1,290 feet. Von Hagen Syndicate has shut down at 850 feet on No. 1 Pickler, Section 19-19-22.

Lafayette County

Kensaw Syndicate is drilling No. 1 Kensaw, Section 31-19-24, at 3,250 feet.

Miller County

Lenz and others' No. 1 Mann, Section 22-15-26, is reaming to bottom, total depth 2,950 feet.

Nevada County

McDonald and others' No. 1 Pelt, Section 9-15-22, which tested dry at 2,000 feet and again at 2,035 feet, is drilling at 2,175 feet.

Ouachita County

H. M. Harrell, trustee, is sidetracking a boulder at 1,410 feet in No. 1 Ponder, Section 18-12-17. Magnolia Petroleum Co.'s No. 1 Stout Lumber Co., Section 28-14-16, is drilling broken lime at 3,130 feet.

Union County

Booth and others had 1,400 feet of salt water in the hole, total depth 2,966 feet, on No. 1 Rowland, Section 8-17-11, and made drill stem test of 4 feet of sand at that depth without getting a show but will drill to 3,100 feet, contract depth, before abandoning the well. Lion Oil Refining Co. tested dry in 6 feet of sand at 2,363-69 feet in No. 1 Horn, Section 17-17-13. Pitcher and others, drilling second hole on No. 1 Arkansas Timber Co., Section 21-17-11, have set 39 feet of 15½-inch casing, 123 feet of 10-inch and are drilling at 355 feet; No. 1 Kinard, Section 17-15-19, began drilling December 1, set 10-inch surface string at 123 feet and is drilling at 163 feet.

SOUTHWEST WILDCATS

(Continued from Page 49)

No. 1 Ball, Survey 16, located 450 feet to north line and 150 feet to east line, is drilling.

Crooks County

The Texas Company's No. 3 Lasater, Survey 329, located 2,380 feet to north and 450 feet to west line, is drilling in sand at 4,700 feet.

Hidalgo County

Queen City Oil & Gas Co.'s No. 1 Adams, Lot 1, Block 82, located 3 miles north of Mercedes, is fishing at 2,155 feet. D. L. Smith Oil Co.'s No. 5 Fernandez, Porcion 46, Block 34, located 125 feet to north and 225 feet to west line, is shut down at 1,700 feet.

Jim Hogg County

Paesano Oil Syndicate's No. 1 Campbell, Las Vivoritas grant is drilling at 2,685 feet. O. W. Killam's No. 1 Canales, Baluarto grant, is drilling at 2,750 feet. T. G. Shaw's No. 1 Jones Survey 381, Block 12, located 171 feet to south and 486 feet to west line (location changed), is drilling at 345 feet.

Starr County

Kusch Exploration Co.'s No. 1 Frank Doyno and others, Porcion 75, Block 13, is drilling. Clark & Woodruff's No. 1 Kelsey, Porcion 76, is drilling at 500 feet. J. E. Harston's No. 1 H. Guerra, Survey 43, located 660 feet to south and 1,320 feet to east line, is drilling at 510 feet.

Atascosa County

Lumberman's Oil Co.'s No. 1 Shaw, B. B. B. & C., Block 331, north central, drilling at 80 feet.

Bastrop County

Noack & Laning's (Kelly) No. 1 Roemer, Isaac Casner Survey, 150 feet to northeast corner, shut down at 1,935 feet.

Caldwell County

Alexander-Lyles & Adams' No. 1 Ballard, William Spillars Survey, contract let. Pat M. Armstrong's No. 1 Hardeman, Miles G. Dykes Survey, 150 feet to northwest and southwest lines, is putting in second boiler. The Texas Company's No. 1 Robuck, Ben McCulloch

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Survey, is moving in machinery and has derrick up.

Dimmitt County

Humble Oil & Refining Co.'s No. 1 City National Bank, Survey 654, located 700 feet to north line and 2,000 feet to east line, is drilling at 4,387 feet.

Frio County

Karnes and others are making location for test 14 miles southwest of Moore. Lain & Brown's No. 1 Edwards, Hooper & Wade Survey, 920 feet to center north line, is standing at 1,250 feet waiting on rock bit. P. A. Neilan's No. 2 Blackaller, James Gouley Survey, is drilling at 2,820 feet in the Eagleford.

Goliad County

C. W. Simpson's No. 1 Ideus, W. H. Pendleton Survey, 156 feet to north line and 540 feet to west line of lease, is making test at 2,107 feet.

Gonzales County

Gonza Petroleum Co.'s No. 1 Sinclair, 4 miles northeast of No. 2 Elder, is preparing to resume drilling at 1,200 feet. L. L. Jones and others' No. 1 Campbell, Moore & Bridges Survey, is making test at 1,733 feet of gas showing. L. P. Unkel's No. 3 Johnson, C. H. Jaegar Survey, is putting on rotary at 912 feet.

Guadalupe County

F. A. Lain's No. 1 Weinert, W. K. Estell Survey, 150 feet to center north line, is rigging up to resume at 3,004 feet. Eugene Sight's No. 1 Fred Kruger, Isaac Baker Survey, 450 feet to north and west lines, is shut down at 2,180 feet.

Hays County

J. E. Rodgers' No. 1 Hohenburg, 2½ miles east of San Marcos, is fishing at 2,093 feet with small oil showing at that depth.

Kerr County

Walker-Van Duyn's No. 1 Barfield, B. B. Peck Survey, 4,700 feet to north line and 450 feet to east line, is drilling in shale at 1,000 feet.

LaSalle County

Sun Oil Co.'s No. 1 Washburn, Survey 157, located 3,500 feet to north line and 3,400 feet to west line, is drilling at 2,050 feet in Cook Mountain.

Live Oak County

Houston Oil Co.'s No. 21 Cartwright, J. M. Colchado Survey, 2,900 feet northeast of No. 18, has set casing at 1,616 feet. Simmons Oil Co.'s No. 3 Reagan is fishing; No. 2 Reagan is location; No. 1 McGriff at 256 blew out as gas well and was estimated a commercial well and is being completed; No. 2 McGriff is drilling.

Medina County

Pat M. Armstrong's No. 1 Mangold, Survey 62, located 200 feet to south and east lines of farm, is putting on rotary at 510 feet to replace spudder. F. Banderet's No. 1 Mofield, Survey 532, located 550 varas to east line and 950 varas to north line, is drilling. Chacon Oil Co.'s No. 1 Jungman, Survey 31, located 950 feet to west line and 600 feet to south line, is drilling at 500 feet; No. 2 Jungman is drilling at 100 feet.

Maverick County

Ryan Consolidated Petroleum Co.'s No. 1 Indio, Survey 14, center, is drilling at 2,880 feet. Rycade Oil Corp.'s No. 1 Chittim, Section 129, Block 7, is shut down at 4,295 feet for water; No. 2 Chittim, Section 158, Block 7, is drilling at 2,600 feet; No. 2 Sullivan is drilling at 5,312 feet.

San Patricio County

Ed R. Herick's No. 1 Tsesmelis is drilling. National Oil Co.'s No. 1 Sullivan, J. C. McMullen Survey, 500 feet to southwest corner, is drilling again at 1,138 feet. George B. Pickett's No. 1 Garrett, is shut down at 3,030 feet; No. 1 Whitworth, NW NW Section 60 of Coleman Fulton Pastore Co. Survey, is drilling at 1,400 feet. John Sigmund's No. 9 Robinson bailed at 1,928 feet with water coming in, showing that cement did not hold, and packers are now being pulled to continue drilling.

Travis County

Roy Clark and others' No. 1 Carl Jacobson, C. Harrison Survey, 500 feet to east line of farm and 150 feet to south line of north 72 acres of 147-acre farm, is drilling at 450 feet. T. P. Garrett's No. 1 Roew, R. Hornsby Survey, 900 feet to north and east lines at 600 feet had oil showing on slush pit.

Uvalde County

Pure Oil Co.'s No. 1 J. D. Smythe, Survey 687, located 740 feet to north line and 146 feet to east line of SE cor. of Survey 20, is drilling.

Victoria County

J. J. Elam's No. 1 Vol. Kutchka, 200 feet south of CNL of Section 40 of the Kutchka subdivision, is rigging up. Humble Oil & Refining Co.'s No. 1 Welder is drilling in rock at 214 feet. R. M. Talbott No. 1 Reeves, J. K. Reeves estate, 2,000 feet to west line, is shut down at 1,825 feet.

Val Verde County

East Del Rio Oil Co.'s No. 1 Russell, Section 183, is shut down at 3,210 feet. Independent Operator's No. 1 Whitehead SE SE Section 30, Block 4, is shut down at 3,925 feet. Magnolia Petroleum Co.'s No. 1 Whitehead, Survey 81, located 1,900 feet to west and 900 feet to south lines, is drilling at 5,320 feet in shale. O. O. Owens and others' No. 1 Mills estate, Survey 128, Block 1, is drilling at 3,535 feet and has about 1,500,000 feet of gas. W. V. Traves' No. 1 Wilson, Section 115, Block E, is rigging up.

Zavala County

Western Gas & Fuel Co.'s No. 1 West, northern part of the county, is shut down at 800 feet.

GULF COAST FIELDS

(Continued from Page 51)

drilling to 4,279 feet. Four other tests are drilling on this dome. Adabel Oil Co.'s No. 117 McGoldrick state land is down 625 feet, having started operations the past week. Capitol Oil Co.'s No. 9 Hodges is drilling at 4,210 feet. Deutser Oil Co.'s No. 1 Colorado-Batson Syndicate is drilling around 950 feet. Hill & Dowell's No. 95 Millhome was dry at 1,675 feet.

At Sour Lake, Orange Petroleum Co.'s No. 4 Merchant is drilling below 4,210 feet.

Harris County

Pierce Junction in Harris County figured during the week with two producers and two abandonments. Rio Bravo Oil Co.'s No. 7 P. S. A. is flowing around 250 bbls. daily from sand at 3,720 feet and Moody Corp. got a well in No. 2 Hume making 1,500 bbls. of fluid, of which 20 per cent is water and sediment, from sand around 4,350 feet. Shaw and associates' No. 1 Fitzsimmons and Rio Bravo Oil Co.'s No. 1 G. H. & S. A., however, hit the salt and were abandoned, the former at 3,154 feet and the latter at a total depth of 3,145 feet.

The latter company has staked a location for a second test on the G. H. & S. A. Railroad property and another for No. 7-B on the Settegast lease, or what is known as the B lease. The former has a rig up and is ready for drilling. Anderson & Plummer also have a rig up for their second test on the Whitehead lease at Pierce Junction. Cullen and associates' No. 4 Howe is drilling at 1,690 feet. Gulf Production Co.'s No. 1 Perry is drilling at 5,042 feet, its No. 22 Taylor at 4,217 feet and its No. 23 Taylor at 930 feet. Joe Bashara's No. 2 Higgins in this district encountered salt water at 3,560 feet. Hute Oil Co. is drilling at 2,700 feet in No. 1 Traper. Leonard Petroleum Co. has set casing at 4,600 feet in No. 1 Marland fee. Navarro Oil Co. has a rig up for No. 4-B Cain. Rio Bravo Oil Co. has cemented 4½-inch casing at 4,381 feet in No. 1 P. S. A. and is waiting for cement to set before drilling in and testing. The latter company's No. 101 G. H. & S. A. is in shale at 4,125 feet. Sun Oil Co. failed to make a well at 4,425 feet in its No. 1 Fitzsimmons and pulled the strainer and has started drilling deeper.

At Goose Creek in Harris County, Gulf Production Co. has started deepening No. 18 Hoffman-Gaillard and Saturday was engaged in running in drill pipe. Gulf's No. 21-A Wright, which was put on the beam last week for 15 bbls. daily at 2,885 feet, is to be worked over again. Humble Oil & Refining Co.'s No. 73 Simms-Smith in this district is drilling gumbo and lime at 3,286 feet. This company's No. 4

Ashbel-Smith also is in gumbo and lime but at 2,435 feet. Humble is milling on packer at 2,626 feet in No. 10 Sweet. Powell Oil Co.'s No. 6 Vryan at Goose Creek has strainer set for a test of a sand at around 2,750 feet.

Humble Oil & Refining Co.'s No. 2 Warren at Hockley, Harris County, is drilling gumbo and lime at 2,899 feet.

Jackson County

Locations for three new tests have been made in Jackson County. Wright & Douglas have one for No. 1 Lowrance. Oscar Head, as trustee, has another for No. 1 Boykin, and Tar Well Oil Co. made the third for No. 1 Nona Mills.

Jasper County

In Jasper County, Raymond and associates' No. 1 Kountze, 16 miles west of Jasper, has been abandoned in shale after drilling to a total depth of 3,516 feet.

Jefferson County

Yount Lee Oil Co. got another good well in No. 25 McFadden, Spindletop, the past week. This, an old well drilled deeper, came in flowing 2,480 bbls. daily. This company's No. 3 fee, another deepened well, however, was completed only as a 40-bbl. pumper. Sun Oil Co. also deepened No. 1 McLean to 3,300 feet and put it on the pump, making 100 bbls.

Three Spindletop tests were abandoned, these being Yount Lee Oil Co.'s No. 46 McFaddin, abandoned at 5,083 feet because of heaving shale; J. O. Davis & Kinnear's No. 1 Gladys, dry at 5,912 feet, and Magnolia Petroleum Co.'s No. 2-A Gladys, which tested dry at 5,830 feet.

Yount Lee Oil Co. is to drill five new tests at Spindletop, locations for which were staked the past week as follows: No. 48 Gladys City, 87 feet west, 125 feet of southeast corner of Lot 102; No. 48 McFaddin, 100 feet south of No. 47 in line with No. 45 and No. 47; No. 49 McFaddin, 100 feet south of No. 41 in line with Nos. 41 and 44; No. 50 McFaddin, 90 feet east of No. 43 in line with Nos. 29 and 43, and No. 27 fee, 30 feet east and 24 feet south of Battleship Oil Co.'s No. 1 Weed, which came in November 16 flowing 480 bbls. Yount Lee Oil Co.'s No. 39 McFaddin, Spindletop, is sidetracking at 5,600 feet.

Gulf Production Co.'s No. 10-A Marrs McLean at Spindletop is drilling at 5,091 feet. This company's No. 9 Daisy Roche is down 4,205 feet. Strainer has been set in No. 6 Jack & Duff to test a sand at 4,872 feet. A derrick already has been completed for No. 7 Jack & Duff and the test is being rigged up for drilling. Gulf has started drilling in No. 17-A Marrs-McLean and Saturday was down 671 feet. A rig also is up for No. 18-A Marrs McLean.

Magnolia Petroleum Co. has a fishing job in its No. 7-A fee. The hole is down 4,775 feet. Paggi Brothers are making arrangements to deepen an old well, their No. 1 Gordon. Rio Bravo Oil Co.'s No. 2 T. & N. O. is drilling in sand at 3,216 feet. Sun Oil Co. has a fishing job at 5,700 feet in its No. 6 McLean. This company's No. 11 McLean is drilling around 1,025 feet, and No. 18 McLean, in which drilling was started the past week, is down 150 feet.

At Big Hill, Jefferson County, Freeport Sulphur Co. has abandoned No. 3 Staiti as dry at 1,416 feet. This test hit cap rock at 1,415 feet. This company has a location for another test on this lease, its No. 5.

Gulf Production Co.'s No. 4 Bordes at Faunette is drilling at 4,000 feet.

Liberty County

Gulf Production Co. has a rig up and is starting drilling in another test at Hull, Liberty County. This will be its No. 43 Phoenix. This company's No. 87 Phoenix is drilling at 4,566 feet, and its No. 11 Thomas fee at 3,517 feet. Also at Hull, Humble Oil & Refining Co. is making arrangements to deepen its No. 21 Guedry, an old producer. Hull Oil Co.'s No. 7 Harrison looks like a small well and is being put on the pump at 3,025 feet. This company also is making arrangements to deepen one of its old wells, the No. 4 Harrison. Republic Production Co. has been bailing No. 49 Dolbear for a test of a sand around 3,025 feet. The latter company's No. 89 Dolbear is drilling around 4,050 feet. The Texas Company's No. 2 Hannah fee is sidetracking at 2,825 feet. The Texas Company and the Vacuum Oil Co.'s joint test at Hull, No. 7 Hannah, is in shale, lime and boulders at 2,560 feet.

At Davis Hill, Liberty County, Speckels and associates have abandoned the location which they had made for No. 1 Harvard. Humble Oil & Refining Co. still is fishing for liner and screen in No. 5 Welder, South Dayton, which well will be deepened from its present producing horizon.

Matagorda County

Rycade Oil Corp. is pulling screen to deepen No. 5 Kountze, Markham Field. This well came in earlier in the week flowing 268 bbls. of oil in the first 18 hours from a sand at 3,823 feet, but since then the production has declined to virtually nothing. The test is being drilled jointly with the Humble Oil & Refining Co.

Orange County

Three small pumpers were completed in Orange County. Humble Oil & Refining Co.'s No. 5 Meyers, an old well worked over, was put on the beam and Saturday was making around 75 bbls. daily. Gulf Production Co.'s No. 1 Hager & Moore is pumping 50 bbls. from sand at 3,600 feet, and Brownie-Babbittee Oil Co.'s No. 3 McLean is pumping 40 bbls. from sand at 4,025 feet. The latter two wells also are workovers.

Gulf Production Co.'s No. 2 Lee Hager fee is drilling at 4,101 feet. Gulf Coast Oil Corp.'s No. 5 Leon is down 3,325 feet. Humble Oil & Refining Co. still is engaged in cleaning out the hole and fishing in No. 1 Kishi-Lang, preparatory to deepening it. Rycade Oil Corp.'s No. 13-E State is drilling at 4,242 feet. Sun Oil Co.'s No. 2 Brown is drilling at 4,150 feet.

Waller County

J. R. Garrett and associates' have abandoned their No. 1 Garrett, 12 miles south of Hempstead, Waller County. This test was drilled to a total depth of 1,001 feet in blue shale. It encountered a slight oil showing at 817 feet.

Washington County

Sun Oil Co. has a location made for another test at Somerville, Washington County. This will be No. 1 on the Freeman lease.

Wharton County

Three shallow producers, completed earlier in the month but which were not reported until the past week, have been brought in at Boling, these being Weed-Gayle Oil Co.'s No. 5 Bay, its No. 6 Keller and its No. 9 Kellar. Production ranged from 340 to 500 bbls. daily. Benson & Abercrombie's No. 3 Kostelink, a shallow Boling test, showed salt water and was abandoned at 441 feet. The latter operators have made a location for another shallow test, No. 2 Waytek. Weed-Gayle Oil Co. also has made a location for No. 7 Bay and one for No. 8 Bay. Texas Gulf Sulphur Co. has started a new sulphur test at Boling, the No. 1 Britton Monroe. Nail and associates have abandoned No. 1 Croom at 856 feet.

LOUISIANA GULF COAST

Acadia Parish

Port City Oil Co. got a 75-bbl. pumper in the Evangeline Field. This was No. 8 Jennings-Heywood, completed at a depth of 1,780 feet. Cline and associates' No. 6 Conklin at Evangeline has been shut down at 2,175 feet. Evangeline Oil Co.'s No. 1 Cline also is standing after hitting salt water at 1,875 feet. Salt Dome Oil Co.'s No. 1 Valle is drilling below 1,625 feet, and The Texas Company's No. 106 Latrielle below 1,910 feet. The latter company's No. 2 Rayne heirs is drilling below 3,550 feet.

Ascension Parish

Gulf Refining Co. has made a location for its fourth test on the United Land Co.'s lease, SE Section 15-10s-4e. No. 3 recently was abandoned. This test is on the Sorrento Dome, McElroy Field. Roxana Petroleum Corp.'s No. 1 Wilbert, White Castle, has reamed to the bottom at 1,054 feet and will set 12½-inch casing on bottom.

Calcasieu Parish

Hercules Oil Co. has completed No. 3 Paraffine, Edgerly, flowing 1,200 bbls., after being deepened from 3,570 feet to

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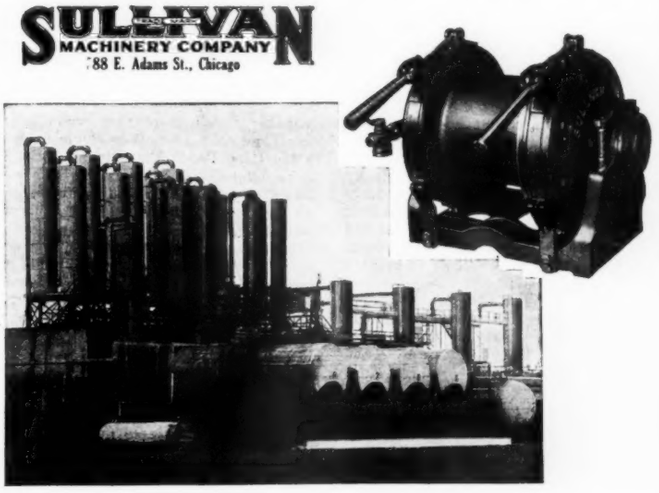

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3,700 feet. The well was brought in the first of November flowing 50 bbls. an hour at 3,570 feet, but soon went to water. In the same district, C. M. Crotty got a 10-bbl. well in No. 7 Lillard, completed at 2,220 feet. West Edgerly Oil Co.'s No. 1 Krause & Managum has been abandoned after drilling to a total depth of 5,030 feet. Rex Petroleum Co.'s No. 5 Hunter, which recently blew in as a gas well at 3,996 feet, has been making some oil and now has been completed flowing 150 bbls. net oil daily. Drysdale-Savoy Oil Co.'s No. 2 Hill is being bailed for a test of a sand at 2,125 feet. Rex Petroleum Co.'s No. 1 Ecker also is being bailed for a test at 2,890 feet.

At Starks, Gulf Refining Co.'s No. 9 Industrial is drilling at 569 feet. This is a new test started the past week since the abandonment of No. 8 Industrial. This company's No. 7 Lutcher-Moore on the north flank of the dome, opposite the Industrial tests, is drilling around 5,080 feet.

At Lockport, Vacuum Oil Co. and Gulf Refining Co.'s No. 19 Miller encountered rock formation at 2,388 feet and is running a roller bit. No. 3 Farquahar is pumping wash water but no oil at 4,400 feet. No. 3-A Farquahar is in a sandy shale and lime at 4,079 feet. No. 5 still is fishing at 5,517 feet. No. 4 Bayou d'Inde State is drilling hard sand at 4,248 feet. The same operators are running 6⅝-inch casing at 3,851 feet in No. A-1 fee and are setting up a drilling pump. Their No. 2 Frieber & Woolf is drilling hard sand at 5,883 feet.

Newton Drilling Co.'s No. 1 Dupre, near Lockport, which was thought to have encountered a paying oil sand at 2,496-2,508 feet, tested salt water and now is shut down.

At Vinton, Vinton Petroleum Co.'s No. 9 Gordon is drilling below 2,745 feet. This company's Gray well, No. 48, is drilling at 2,820 feet.

Plummer Oil Co.'s No. 1 Lyons encountered salt water at 3,750 feet.

Cameron Parish

Calcasieu Oil Co.'s No. 1 Olevia, East Hackberry, is drilling below 1,700 feet. This company also has a rig up for No. 1 Watkins (Gulf Land Co.) These two tests are being drilled jointly by the Calcasieu, Magnolia Petroleum Co. and the Union Sulphur Co. Yount Lee Oil Co. also is to drill two new tests in the Hackberry district, one, No. 6 State, near the East Hackberry Dome, and the other No. 7 School Land, in Section 16-12s-10w, in the old Hackberry district.

Miscellaneous

Gulf Refining Co.'s No. 1 Broussard at Faussa Point, Iberia Parish, is drilling at 4,608 feet. This company's No. Z-3 State is down 2,176 feet. The latter also is at Faussa Point. In the Thibedeaux district of LaFourche Parish, Gulf Refining Co. has abandoned No. 1 Dilbert-Stark after encountering gyp rock at 1,420 feet. This company already has a location for No. 2 on this lease and is hauling in derrick material. Ryeade Oil Corp. is preparing to cut out 4-inch drill stem in No. 1 Atchafalaya, St. Martin Parish. This test is down 3,016 feet. No. 2 on this lease has been rigged up to start drilling this week. Terre Bonne Gas Co has abandoned No. 1 Gaidry, Terre Bonne Parish, after drilling to 2,570 feet.

CALIFORNIA FIELDS

(Continued from Page 56)

be enforced in case of a national shortage of crude.

Fifteen new wells are under way in the Seacliff Field and now that the Pan American's No. 1 State is back on production making clean oil additional drilling will be stimulated. The Chanslor-Canfield Midway Oil Co. is the largest operator in the Seacliff Field, having three drillers on Hobson lease C and one each on Hobson leases A and B. The Pan American, in addition to its discovery well, No. 1 State, is running four strings of tools, but will have another hole under way shortly. The General Petroleum and Miley Oil Co. each have two drilling projects under way with additional rigs going up. Drilling operations were greatly stimulated by the Pan American's recompletion, No. 1 State, and with the formation conducive to rapid footage it is believed two or three additional wells will be finished this month.

Long Beach

Three more deep sand wells were put on production in the Long Beach Field, the largest the Richfield Oil Co.'s No. 1 Hoffman. This well, a former upper zone producer, came in under a natural flow making 4,425 bbls. of clean 30.4 gravity oil and approximately 3,000,000 feet of supersaturated gas daily from the 6,012-foot level. The Richfield has inaugurated a rather comprehensive drilling program since acquiring the holdings of the San Martinez and Rice Ranch Oil Cos. and this concern has four potential deep sand producers which should be finished before the close of 1927, unless mechanical trouble develops. This quartet will be followed into production by several more early in 1928 and the company's present policy of keeping 12 strings of tools in operation guarantees additional completions for several months. The Shell will probably finish more new wells in the deep zone than any other single operator in the Long Beach Field during 1926 due to its extensive holdings. Two new wells should be brought in within three weeks, but the company's drilling operations will not be reflected in a concrete way until after the first of the year when completions will become more numerous and continue for several months if subsequent developments warrant.

The Pan American brought in No. 3 Anderson and while it did not show prolific production it was nevertheless a commercial producer. This well, a recompletion after being redrilled and deepened from the upper to the lower sand at 5,976 feet, came in doing 650 bbls. of 29.4 gravity oil and 1,500,000 feet of wet gas daily. The relatively small production secured is attributed to the fact that the hole was finished with a 3-inch liner instead of the usual 4½ or 6¼-inch. The small pipe used is undoubtedly holding back production, but this condition could not be helped, due to the fact that the hole had been previously finished with several strings, graduating from a 10-inch to 6¼-inch. This hole, incidentally, contains 19,345 feet of pipe and 3,965 feet of 2½-inch tubing. The Pan American, in keeping with the policy general throughout the field, is increasing its development work to secure its share of deep sand production.

The Bush-Voorhies Oil Co. recompleted No. 2 Graham in the deep sand at 5,708 feet after redrilling and deepening from the upper zone and the well was returned to production flowing 1,048 bbls. of exceptionally clean 30.5 gravity oil and 1,250,000 feet of saturated wet gas per day. The California Eastern Oil Co.'s No. 1 Masser, which came in last week flowing at the rate of 4,000 bbls. a day, failed to hold up to its initial production due to the fact that the well is producing under a serious handicap. The 4½-inch oil string froze approximately 700 feet off bottom and it was found necessary to complete the hole with a 3-inch perforated liner. It has been found impossible to secure maximum sustained production in the Long Beach Field with small pipe and for this reason the decline in production did not come entirely as a surprise. The General Petroleum has an exceptionally promising looking well nearing completion in No. 6 Boyer-Kelly, and this project should be tanking oil soon. No. 5-B Boyer-Kelly is also expected in soon, probably around the close of the present month. The Union Oil Co. is still trying to figure out why No. 13 Long Beach Community has failed to respond as it showed symptoms of resulting in substantial production previous to completion. No reason has been advanced by the company but it is common gossip throughout the fie'd that the hole has been jimmied up. It remains to be seen whether or not a sustained natural flow can be stimulated as the best it has done is around 200 bbls. daily. The Bolsa Chica Oil Co., one of the pioneers at Long Beach, contemplates a rather ambitious drilling program in this area covering either three or four new wells. No. 4 Mutual, the company's initial projected deep sand well, made approximately 3,000 feet of hole in 12 days and preparations are being made to land a string of pipe around the 3,100-foot level. Five more new wells were spudded in at Long Beach during the current week and a check of work under way indicates the probable completion of something like 8 or 10 new wells within two or three weeks.

Seal Beach

One new well was finished in the Alamitos Heights section of the Seal Beach Field when the Richfield Oil Co. put No. 1 Doyle on production in the lower sand at 5,260 feet, but due to the depleted condition of the lower zone it only showed an initial of 172 bbls. daily. Drilling operations in the town lot area are getting smaller each week and from now on abandonments will probably be more numerous than completions. The Petroleum Securities filed eight abandonments a few weeks ago and H. J. Barneson added another a few days ago by pulling up stakes on No. 1 B. & S., a 5,427-foot hole. The Associated, Marland and Standard are doing only a limited amount of development work in the older section but with the Alamitos Heights town lot area definitely out of the picture it is quite possible these three operators will spud in a few new holes from time to time. The severe decline in production shown by the Alamitos Heights town lot area of the Seal Beach Field brings to light a rather interesting conditions and one which tends to indicate the fallacy of intensive drilling in areas which do not contain an exceptionally large thickness of oil-bearing formation. The small amount of recoverable oil remaining under ground at Alamitos Heights has practically brought new drilling to a standstill, in fact there are only eight uncompleted drilling projects in that area now. Huntington Beach, on the other hand, showed 25 new wells under way according to a recent tally and several additional spuds are contemplated. The present situation in these two fields from a development standpoint is particularly interesting, as the town lot area at Seal Beach was opened up after the development peak had been reached in the town lot area at Huntington Beach.

Richfield-Brea Olinda

Drilling operations in the Richfield and Brea Olinda Fields appear to be slowing up a little and in place of the spirited bidding for leases which characterized work in the former area several months ago operators have settled down to routine work. The present rate will probably continue for several months, new wells being started upon completion of present drillers. The California Petroleum listed a new well in the Richfield district when No. 7 Bradford was put on the beam at 4,704 feet. The ouput was somewhat disappointing, however, as the well only showed a maximum of 110 bbls. daily. The union is preparing three wells in this field for early production and, judging by their predecessors, substantial commercial production can be anticipated. The Shell does not hold any acreage within the proven limits of the Richfield district, but that company is making up this deficit with increased drilling at Brea Olinda where five strings of tools are in operation. The Standard is the principal operator in the Montebello Field, although it is doubtful if the company's drilling activities out along the west front will prove remunerative. The Whitehead, Stocker-Merced, Benedictine and Howard & Smith leases are edge properties which so far have only yielded small production.

Kern River

The old Kern River Field, which has experienced a revival of drilling operations during the past year or so due to extension work out along the west front, yielded several new producers during the week. As there are about 15 new wells under way and approximately 25 additional locations staked, this area will continue quite active for several months. George F. Getty concluded drilling and lease obligations on the Lehnhardt property in Section 14-28-27 by bringing in No. 17 as a 95-bbl. pumper from 2,317 feet. The Petroleum Securities added one new well by bringing in No. 2-B in Section 22-28-27 as a 140-bbl. pumper from 2,662 feet and this well will be followed into production by Nos. 7-A and 8-A. The General Petroleum brought in No. 20 Young in Section 14-28-27 pumping 120 bbls. from 2,070 feet and immediately shifted the crew to Section 26-28-27 where No. 36 was spudded in. The Standard finished two new wells, Nos. 13 and 20, and while the latter was not actually put on a production test it should be tanking oil shortly. No. 20 in Section 15-28-27 was the best completion listed as it showed an initial of 190 bbls. daily from 2,280 feet, the hole having been finished with an 8⅝-inch oil string. A check of other drilling operations indicates the probable completion of several other new wells within 10 days. The only development of interest in the Midway-Sunset Field was the short gas blowout which occurred in the Buick Oil Co.'s No. 11 in Section 32-31-23. This well was redrilling at 3,150 feet when it came in flowing approximately 750,000 feet of gas. It was killed within a short time and work resumed. The Standard added a small well in the Wheeler Ridge Field, No. 31 in Section 27-11-20, resulting in a 35-bbl. pumper from 2,564 feet.

Northern California Wildcats

One of the most interesting wildcats under way in northern California is the General Petroleum's test in the Edison district southeast of Bakersfield. The importance of this wildcat lies in the fact it has logged several streaks of oil sand which will be given a test soon.

The Mon Bluff area, north of Bakersfield between the Mount Poso and Round Mountain Fields, is also receiving considerable attention and looks equally as promising as Edison. The General Petroleum's wildcat in Section 21-27-28, approximately 3 mi'es southeast of Mount Poso, picked up a very promising sand at 1,655 feet and a string of 11-inch has been landed for an early test. The Union's No. 1 Tribe in Section 28-27-28, a mile or so south of the General Petroleum's test, is also showing up exceptionally well, in fact all indications point to the development of commercial production in the near future. The recent abandonment of several dusters in Ventura County has not had a tendency to reduce drilling operations in this section and further continuous prospecting is anticipated during the coming year. The Shell recently spudded in a new wildcat at Strathern and the Standard has inaugurated a rather extensive survey in the vicinity of Saticoy. The latter will drill several structure survey holes before starting a deep test. The first surface structure hole was started several days ago and is down 388 feet. Additional work at Sulphur Mountain, where Geis & Bradford recently finished a small commercial producer, will determine the productivity and extent of this structure and while big production is not anticipated this area should be commercially profitable.

Santa Barbara County is also coming in for considerable work, and this area may yield a new field as a result of present and projected wildcatting activities. The Twin State recently spudded in a test well at Santa Barbara and the ho'e will be drilled by the Petroleum Exploration Co. The San Marcos Syndicate, under the direction of Elliott & Clark, is rotating ahead at 3,452 feet in a wildcat at Santa Ynez with no special showings of importance logged to date. The Pacific Eastern, one of the most aggressive wildcatting concerns in Kern County with a wildcat at Union Avenue and another a few miles to the north at Fruitvale, expects to open up at least one new field in this general vicinity. The Shell recently filed an abandonment notice on No. 2 Murphy in the Petaluma district, Sonoma County, but another test will be put down on the Rossi lease, about 1,000 feet from No. 1 Murphy, a deep dry hole. The Shell has several thousand acres under lease in this vicinity and consequently the company is not

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sparing any expense in making a conclusive test. There are several wildcats under way in the northern part of the State and while none of the major companies is doing any prospecting, some of them have acquired protective holdings. In the Petrolia area the Humboldt Oil Co. has a wildcat down approximately 3,000 feet up in Conclin Creek, recent reports indicating a rather favorable gas showing. The North Counties Oil Co. is down approximately 1,235 feet in its second test on the Etter ranch and this wildcat has also logged several encouraging showings. The Eureka Oil Co., which is drilling a prospect hole on the Duff ranch about 7 miles south of Eureka, has temporarily shut down but drilling is expected to be resumed early next year. All three of these wildcats have possibilities as the cretaceous and tertiary rocks are both organic.

Southern California Wildcats

The Associated has definitely removed the Potrero district from wildcat lists for the second time by recompleting its No. 1 Cypress as a 500-bbl. producer from 5,408 feet. This well originally came in several weeks ago but the upper sand failed to maintain sustained production and the hole was accordingly deepened. The recompletion of No. 1 Cypress by the Associated will undoubtedly hasten the work of E. E. Carpenter, an independent operator, who contemplates redrilling and deepening the old Julian Petroleum Corp.'s test which was suspended several months ago at 5,280 feet. Carpenter has started rebuilding the old Julian rig east of No. 1 Cypress and drilling will be resumed soon. The Pico district is receiving considerable attention and with the Associated's wildcat in this area down 3,481 feet, operators will no doubt watch developments very closely. It has only been within the past few weeks that the area in and around Pico has received more than passing thought as geologists as a rule have heretofore failed to show any enthusiasm over the possibilities of this section. Recent careful surveys, however, have tended to indicate that the area has possibilities.

Monterey Park is another district which might bear watching as the Monterey Park Oil Co.'s wildcat in that section has logged several encouraging showings of oil and gas from time to time. A string of 11-inch was recently run in and cemented in order to prevent any mishap in case the well should hit a gas pocket. The San Clemente Oil Co. is still battling with a troublesome water problem in its Hawthorne-Lawndale test at 5,536 feet and further work will be necessary before any kind of a satisfactory production test can be made. The Standard has abandoned its wildcat just south of Olive in Orange County and the company will probably pull out of this area as the hole is considered a conclusive test.

KANSAS FIELDS

(Continued from Page 44)

1 Cummings, NW cor. NE NW, Section 2-26-10, is a 5-bbl. well in sand 1,988-2,026 feet.

Lyon County

Bascom and others made location for No. 1 Elrode, NE cor., Section 36-21-11.

McPherson County

Mid-Kansas Oil Co.'s No. 1 Jones, SW cor. NE, Section 26-19-3w, has been abandoned at 3,635 feet.

Marion County

Johnson and others made location for No. 1 Thompson, SW cor. NE, Section 26-17-4, Lost Springs area. Empire Oil & Refining Co.'s No. 1 Schlothour, NE cor. SW NE, Section 9-20-4, is dry and abandoned at 2,673 feet.

Russell County

Wilcox Oil & Gas Co. made location for No. 3 Mermis, SE cor., Section 18-12-15w.

Sherman County

Hannson and others' No. 1 Murry, NE cor. SW NW, Section 22-7-40w, an old well, is rigging up to deepen below 1,965 feet.

Sumner County

La Robb Oil Co. is building the rig for No. 2 Buffington, on the Midland Valley Railroad right of way, Oxford Townsite, Section 14-32-2. Roxana Petroleum Corp. has the rig up for No. 2 Birkett, Block 87, Oxford Townsite, Section 14-32-2. Jarvis and others made location for No. 2 Scroggins, Block 53, Oxford Townsite, Section 14-32-2. Location was made for No. 2 Buffington by the Roxana Petroleum Corp., located in Out Lot 9, Oxford Townsite, Section 14-32-2. Location for No. 1 Scroggins was made on Tract 5, Oxford Townsite, Section 14-32-2. Location for No. 1 Rothwell "A", was made SE cor. NE SW, Section 14-32-2.

Roxana Petroleum Corp.'s No. 3 Wiles, SE cor. NW NE, Section 25-31-2, Oxford Townsite Pool, had sand 1,841-1,902 feet and made 325 bbls. after a shot of 60 quarts. No. 4 Wiles, NW cor. NE NE, Section 25-31-2, was shot with 60 quarts in sand 1,848-1,909 feet and made 300 bbls. No. 1 Jenkins, NE cor. SE, Section 26-31-2, was completed for 150 bbls. in sand 1,869-1,908 feet after a shot of 60 quarts. Jarvis and others' No. 1 Scroggins, Out Lot 22, Oxford Townsite, Section 14-32-2, made 400 bbls. from sand 1,967-2,088 feet after shooting 30 quarts. Roxana Petroleum Corp.'s No. 3 Emerich, Out Lot 22, Oxford Townsite, Section 24-32-2, was completed for 400 bbls. in sand 1,997-2,080 feet.

Woodson County

Young and others made location for No. 1 Otto, SW cor. NW NW, Section 21-23-14.

OKLAHOMA FIELDS

(Continued from Page 44)

Sw. is drilling at 800 feet. Carter Oil Co.'s No. 3 McCaugherty, NW cor. SW NW, Section 26-5-8w, an old well, is rigging to deepen below 1,351 feet. Oklahoma Gas Utilities Co. has the rig timbers on the ground for No. 5 Dryden, SE cor. SW SW, Section 35-5-8w. Watchorn Oil & Gas Co. has built the rig for No. 1 Dennett, SE cor. SW SW, Section 12-4-Sw. Commercial Development Co. has the rig up for No. 1 Woolridge, SE cor. SW NW, Section 13-4-8w. Carter Oil Co.'s No. 2 Nothaf, NW cor. SW NW, Section 22-3-5w, is rigging up rotary tools.

Carter Oil Co.'s No. 4 McCaughtry, SW cor. NW NW, Section 26-5-8w, has been shut in for 28,000,000 feet of gas after setting 6-inch casing at 2,020 feet and drilling to 2,450 feet. Watchorn Oil & Gas Co.'s No. 5 Pettitt, SE cor. Section 11-4-8w, set the 8-inch casing at 2,196 feet, drilled to 2,213 feet and gauged 28,000,000 feet of gas. Marland Oil Co. and Joe Ray's No. 3 Woods, NE cor. SE NE, Section 17-3-5w, is flowing 135 bbls. from sand at 2,268 feet to 2,291 feet after plugging back from 2,362 feet. Magnolia Petroleum Co.'s No. 1 Wham, SE cor. NE NE, Section 34-3-5w, has been abandoned at 3,801 feet. No. 1 M. Payne, NW cor. SW NW, Section 2-1-5w, is dry and abandoned at 4,380 feet.

Jefferson County

Amerada Petroleum Corp. and W. H. Gant's No. 1 Ryan, NE cor. SE NW, Section 23-6s-6w, has been abandoned at 2,501 feet.

Okfuskee County

The Prairie Oil & Gas Co.'s No. 1 Strain, SE cor. SW SE, Section 17-10-9, was abandoned at 3,338 feet.

Muskogee County

E. Price has a machine at the location for No. 1-A Russell, NE cor. SE SE SE, Section 19-15-16. J. L. Dixon and others' machine is rigging up for No. 5 Callahan, C SE, Section 2-14-18. J. D. Linthecum moved a machine out for No. 2 Kelley, SW cor. NE SE, Section 5-14-19. D. L. T. Oil Co.'s No. 1 Mackey, NE cor. SW SW, Section 9-15-18, was completed for 4,000,000 feet of gas in sand at 782-804 feet after shooting 40 quarts. Becker & Shaffer's No. 1 Kelley, SW cor. SE NE, Section 5-14-19, is dry and abandoned at 750 feet.

Pittsburg County

Quinton Spelter Co. has the rig up for No. 1 Houston, NE cor. Section 17-7-18.

Okmulgee County

Lavery & Farrell's No. 1 Carter, NW cor. SE SE, Section 10-15-14, is drilling at 250 feet. F. D. Misener has a machine at the location for No. 2 Colbert, CEL NE SW, Section 14-14-14. J. E. Wallace has a machine on the ground for No. 5 D. Colbert, C NW SE, Section 14-14-14.

W. B. Pine's No. 3 Skidmore, C SE NW, Section 10-15-14, is a 5-bbl. well in sand at 960-993 feet. J. E. Wallace's No. 4 D. Colbert, NE cor. SW SE, Section 14-14-14, was completed for 10 bbls. in sand at 1,006-18 feet after plugging back from 1,745 feet and shooting 60 quarts. Independent Oil & Gas Co.'s No. 5 Wilson, SE cor. NW SE, Section 7-12-12, is making 1,500,000 feet of gas from sand at 1,980-90 feet. Kessler & Logan's No. 4 Milliken, SW cor. NW NW, Section 9-12-12, drilled the Wilcox sand from 3,248 feet to 3,264 feet and was abandoned.

Rogers County

L. E. Keys' No. 1 Childers, SE cor. Section 26-19-17, has been abanodned at 815 feet.

Pontotoc County

Coleman Petroleum Co. has built the rig for No. 1 Martin, NE cor. SW SE, Section 25-5-6. Homaokla Oil Co. has the rig up for No. 1 Berry, SE cor. NE SE, Section 19-5-8.

American Oil & Refining Co.'s No. 4 Wray, NW cor. NE NW, Section 34-5-6, has been shut in for 6,000,000 feet of gas from sand at 1,859-90 feet. Louisiana Oil Refining Co.'s No. 5 McElroy, SE cor. NW SE, Section 17-5-8, Allen Pool, had an initial production of 200 bbls. from sand at 2,423-2,507 feet. W. R. Ramsey's No. 3 Milner, SW cor. NW SW, Section 17-5-8, made 10 bbls. from sand at 2,311-68 feet, total depth 2,374 feet. No. 2 Parker, NW cor. SE, Section 17-5-8, was completed for 50 bbls. in sands at 2,361-2,412 and 2,412-20 feet. No. 1 Patterson-Harjo, NW cor. SW SW Section 20-5-8, made 270 bbls. from sand at 2,544-68 feet.

Pottawatomie County

Gypsy Oil Co. made location for No. 1 Sullivan, NW cor. NE SE, Section 25-7-3, Pearson Pool. Magnolia Petroleum Co. staked the location for No. 1 L. Green, SW cor. NW, Section 13-7-4, St. Louis area. Location was made for No. 3 Risenhoover, SE cor. SW NE, Section 14-7-4. Location for No. 2 F. Davis, NE cor. Section 15-7-4, was made. The rig is up for No. 2 Singletary, NE cor. SE NW, Section 23-7-4.

Seminole County

The Prairie Oil & Gas Co. made location for No. 3 Aldridge "A," SW cor. SE, Section 34-8-6. Tidal Oil Co. has the cellar dug for No. 1 Fixico, NE cor. NW SW, Section 9-8-6, Bowlegs Pool. The rig has been built for No. 8 Harjoche, NW cor. SW, Section 10-8-6. T. B. Slick has the rig up for No. 1 Barrett, NE cor. SE NW, Section 13-5-6. Mid-Continent Petroleum Corp. has the rig material on the ground for No. 1 Fleet, SE cor. Section 7-5-8.

Twin State Oil Co.'s No. 3 Hearn, NE cor. SE, Section 2-9-5, Earlsboro Pool, was completed for 3,630 bbls. in the Wilcox sand at 4,278 feet, drilled to 4,289 feet and made 150 bbls. when swabbed. Gypsy Oil Co.'s No. 11 B. Carter, NE cor. NW NW, Section 11-9-5, was completed for 2,595 bbls. from the Wilcox sand at 4,467-88 feet. Magnolia Petroleum Co.'s No. 8 Seay, NE cor. SW SW, Section 12-9-5, had Wilcox sand at 4,294-4,301 feet and made 400 bbls.

Magnolia Petroleum Co.'s No. 4 Sullivan, NE cor. NW NW, Section 12-9-5, went into the Wilcox sand at 4,242 feet, drilled to 4,270 feet and after plugging back to 4,257 feet made 125 bbls. Mid-Kansas Oil Co.'s No. 2 Anderson, NW cor. NE NE, Section 14-9-5, was completed for 130 bbls. in the Wilcox sand at 4,321-28 feet. No. 4 Anderson, NE cor. SE NE, Section 14-9-5, is pumping 45 bbls. oil from the Simpson sand after drilling to 4,311 feet and plugging back to 4,258 feet. Carter Oil Co.'s No. 1 Johnson, NW cor. SE NE, Section 3-9-6, Searight Pool, had an initial production of 90 bbls. from the Wilcox sand topped at 4,266 feet, total depth at 4,280 feet and plugged back 2 feet. The Texas Company's No. 1 Fleet, NE cor. NW SW, Section 4-9-6, made 100 bbls. on the swab, producing from the Hunton lime

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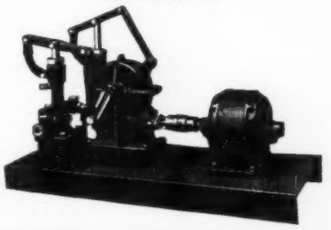

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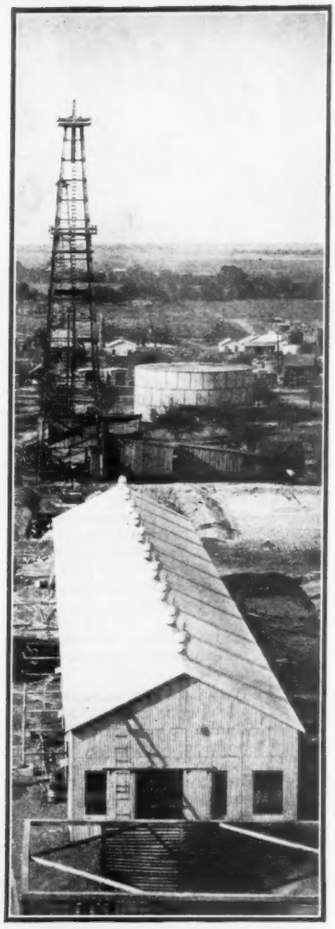

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at 4,105-35 feet. Tidal Oil Co.'s No. 8 Fixico, SW cor. NE NW, Section 26-9-6, Seminole Pool, topped the Wilcox sand at 4,114 feet and lost the tools at 4,250 feet and was abandoned.

Magnolia Petroleum Co.'s No. 2 Rhoades, SW cor. NW SE, Section 12-8-6, Bowlegs Pool, made 1,050 bbls. initial by swabbing from the Wilcox sand at 4,219-37 feet. Carter Oil Co.'s No. 3 Harjoche, NW cor. SW NW, Section 14-8-6, swabbed 55 bbls. from the Wilcox sand topped at 4,020 feet, drilled to 4,110 feet and plugged back to 4,060 feet. Empire Gas & Fuel Co.'s No. 3 Lacey, SW cor. Section 14-8-6, lost the hole at 4,537 feet in the Wilcox sand and was abandoned. Minnehoma Oil Co.'s No. 4 Bowlegs, SW cor. Section 15-8-6, had the Wilcox sand at 4,465-98 feet and made 90 bbls. Independent Oil & Gas Co. and Marland Oil Co.'s No. 4 Coker, SE cor. NE, Section 21-8-6, is dry and abandoned in the Wilcox sand at 4,445-53 feet. Gypsy Oil Co.'s No. 2 Pottey, SE cor. NE NE, Section 35-8-6, has been completed in the Wilcox sand at 4,505-08 feet, producing 372 bbls., Little River Pool.

Pure Oil Co.'s location for No. 3 Hull, SW cor. Section 35-8-6, has been abandoned. Carter Oil Co.'s No. 10 Casey, SE cor. NE, Section 31-8-8, Wewoka Pool, swabbed 385 bbls. from the Hunton lime at 3,830-4,005 feet after plugging back from the Wilcox. Gypsy Oil Co.'s No. 1 Monger, NW cor. NE NE, Section 1-7-6, Little River Pool, made 120 bbls. on the pump, producing from the Wilcox sand at 4,356 feet, total depth. Indian Territory Illuminating Oil Co.'s No. 5 Nitey, SW cor. NE NE, Section 2-7-6, went into the Wilcox sand at 4,101 feet, drilled to 4,116 feet and made 188 bbls. Phillips Petroleum Co.'s No. 1 Alexander, NE cor. NW, Section 2-7-6, is dry and abandoned at 4,428 feet. The Prairie Oil & Gas Co.'s No. 1 House, NW cor. NW SE, Section 2-7-6, came in for 350 bbls. from the Wilcox sand at 4,316-24 feet. No. 1 Stubbs, NW cor. NE NE, Section 18-9-7, made 112 bbls. from the Hunton lime at 4,028-65 feet.

Stephens County

Magnolia Petroleum Co. is rigging up No. 1 Funk, NW cor. SW NE NW, Section 30-1s-8w, to deepen from 2,017 feet. Smith-Law Petroleum Co. has built the rig for No. 6 Brymer, SW cor. NE NE, Section 31-1-8w. Harry Hanbury's No. 6 Taliaferro, SE cor. NW SW, Section 27-1s-8w, is rigging up rotary tools.

Four-In-One Oil Co.'s No. 1 Hanson, NW cor. Section 35-1s-8w, is being cleaned out to deepen from 1,605 feet. Skelly Oil Co. made location for No. 4 Krebbs, NW cor. SW SE, Section 13-1s-4w. Pace and others' rig is under construction for No. 1 Adams, SW cor. NE. Section 12-2-8w. Scott & Arington and others have finished the rig for No. 1 G. Brown, NE cor. SW NW, Section 19-2s-7w. Magnolia Petroleum Co.'s No. 4 Webb, NW cor. SW SE, Section 3-2s-5w, an old well, is drilling deeper at 1,410 feet.

Smith-Law Petroleum Corp.'s No. 2 Stephens, NW cor. SE NE, Section 31-1-8w, which was completed some time ago at 2,103 feet, is now making 4,000,000 feet of gas since the casing was ripped at 1,903-10 feet. Magnolia Petroleum Co.'s No. 1-A Chrisholm, SW cor. NW SW, Section 18-1-4w, has been abandoned at 3,823 feet, having found no sands. Lone Star Gas Co.'s No. 8 Wilson, CEL NW SW, Section 9-3s-5w, was deepened from 994 feet to sand at 1,280-83 feet and is making 13,000,000 feet of gas.

Wagoner County

A. Chapman has a machine at the location for No. 2 F. Hesmer, NW cor. SW SE, Section 21-18-17. M. E. Johnson moved a machine out for No. 4 Lunnon, SE cor. NW NW, Section 14-16-16. Wilson & Tillman's machine is at the location for No. 2 Butler, C SE SE, Section 33-16-17.

A Chapman's No. 1 Hosmer, NW cor. SW SE, Section 21-18-17, is dry and abandoned at 922 feet. C. R. Cane's No. 1 Cane, SE cor. NW SW, Section 36-17-17, was completed for 3,000,000 feet of gas in sand at 842-44 feet.

ROCKY MOUNTAIN AREA

(Continued from Page 55)

Creek. The Salt Creek Consolidated Oil Co.'s No. 1-L, NE Section 3-39-79, on the southwestern edge, was completed as a water well at 2,675 feet. It was shot but no production resulted. Wyoming Associated Oil Co.'s No. 22-L, SW Section 23-40-79, was completed as a shale well in the Lakota horizon at 2,245 feet with an initial production of 20 bbls. The Superior Oil Co. completed a 50-bbl. well in its No. 3 in the LaBarge Field in Sublet County. In the same district the California Petroleum Corp.'s No. 5-F was completed at 855 feet, and No. 6-J, SW Section 34-27-113, at 854 feet. The last named had an initial production of 200 bbls. Same company's No. 2-I cemented the 8¼-inch casing at 971 feet and is producing between the 8¼ and 10-inch strings.

In the LaBarge district the California Petroleum Corp. plans to drill five additional wells this winter, rigs for which are up, but this represents a slowing down of the work and two crews have been laid off for the winter. The wells to be put down are those which it is necessary to drill. The company's deep test was shut down several weeks ago to wait the coming of spring. Reese Oil Co.'s No. 2, NW Section 27-27-113, is drilling in hard lime at 1,050 feet. Wolf Petroleum Co.'s No. 3, Section 3-26-113, is standing cemented at 900 feet after setting the 8¼-inch. The Akin Butte Oil Co.'s No. 1, reported shut down last week, is resuming. M. J. Goldberg's No. 1, SE NE, Section 16-26-113, a deep test, has commenced spudding and is drilling at 340 feet. Joe Minton's No. 1, Section 9-27-113, is drilling at 150 feet, and his No. 1, Section 34-26-113, is running 12½-inch at 500 feet. W. D. Newlon's No. 1, SW Section 12-26-113, is drilling in hard shell at 1,500 feet. A. H. Squires' No. 1, NE SW, Section 36-27-113, is drilling in black shale at 1,585 feet. Midvale Oil Co.'s No. 1 Fallis, Section 8-27-113, is drilling ahead at 276 feet. It had a gas show at 225 feet. The Rainbow Oil Co.'s No. 7-A was completed at 1,032 feet with an initial production of 50 bbls.

In Fremont County, the Texas Production Co.'s No. 1 Alkali Butte, Section 1-33-95, is bottomed at 636 feet waiting for the cement to set. The 15½-inch was landed at this depth. Producers & Refiners' No. 1 Hudson, Section 19-2-2, an old well being deepened, has 100 feet of oil in the hole from a total depth of 1,610 feet, and is testing production. The Zola Oil Co.'s No. 1, Section 25-27-93, has shut down for the winter after cementing casing at 3,530 feet.

Park County Operations

In Park County, the Oregon Basin operation, little progress is reported by any of the wells. The Cody Petroleum Co.'s No. 2 Klindt, NE Section 7-51-100, completed rigging up with an electric drive rotary and is drilling at 2,505 feet. The Producers & Refiners' No. 1 Frisby, Section 32-52-100, which was redrilling last week, is making new hole and is bottomed at 263 feet in shale. This tendency of holes to go crooked at a shallow depth has been noticed in a number of wells, the Continental having to skid its rig twice on its No. 1 State, Section 16-51-101, which is now making good progress at 1,100 feet. Wolverine Oil Co.'s No. 1 Rue, SW Section 28-51-101, is drilling at 840 feet after changing over to rotary. Other wells show no material change from last week.

Park County operations other than Oregon Basin include Union Oil Co. of California's No. 1 Taylor, Section 22-47-101, which is drilling at 3,130 feet; and Honolulu Oil Co.'s No. 1 Four Bear, Section 29-48-103, which is tied up with a fishing job at 2,775 feet. E. H. Rosenberg's No. 1 NE NW, Section 25-58-98, Frannie structure, is drilling at 1,580 feet. This structure was recently taken over by Ralph Arnold and associates from the Summit Oil Co., and Rosenberg has the contract for a deep well to test horizons down to the Tensleep. The equipment is electrically driven.

In Converse County, John Ackard's No. 1, Section 28-31-69, near McKinley Switch, is reported shut down for the winter. This well is said to be a doodlebug location. Several months ago it was reported to be in granite at around 1,600 feet, and at last reports was down 2,750 feet, making more than 1,100 feet of granite that has been cut. It is understood that the drilling will be resumed in the spring. The purpose in continuing the test is not known.

Niobrara County is expected to be the scene of considerable wildcatting the coming spring as a result of the recent discovery in the Buck Creek Oil Co.'s No. 1 Delahoyde on the Ant Hills anticline. This test, after casing off the oil, is still delayed at 4,005 feet with casing trouble. The Buck Creek company has several other operations on this structure under way. The discovery is on the NE Section 25-37-63. Same company's No. 1 Hattie Peterson, Section 30-36-62, had bad luck and the rig is being skidded for another start from the surface. Peter Peterson, SW Section 30-36-62, is a location. Some of the structures tested in that region in 1918 following the discovery of the Lance Creek Pool, will be given additional testing. One of these is the Old Woman Creek structure where Norbeck & Nicholson had a small well showing black oil in 1927. The Antelope Creek Oil Co. and Fair Chance Oil Co. have made a location for a joint test on this structure in Section 33-37-62, about 3 miles east of the Buck Creek well. The Antelope Creek company also has commenced spudding in a test on Section 11-34-56, on the Antelope structure in the eastern side of the county. The company has control of 12,000 acres and expect to make a 3,500-foot test. The Dakota is expected at around 2,500 feet.

New Mexico

News from the New Mexico operations for the week was limited to a few scattering reports due to the storms which prevents most of the scouts from reaching the drilling wells, the snowfall being very heavy in some areas. One of the most interesting of those which came through is to the effect that a good showing of oil has been encountered in a shallow well being drilled by the Ludlum Syndicate, 11 miles southeast of Baton in Colfax County. The reports are to the effect that at 92 feet there was a show of gas which was given a small shot in hopes of increasing the quantity. After drilling an additional 5 feet through a lime formation, the bit encountered a show of oil which continued for 130 feet. Total depth at last reports was 260 feet. The showing was estimated at 10 bbls. a day. Little is known concerning the operation, but it is said that the future of the operation is uncertain as the equipment was sold a day or two later on a court order to satisfy a judgment in favor of L. J. Green of Cushing, Okla.

In Lea County, the Maljamar Oil & Gas Co.'s No. 2 Beardsley, SE NE Section 15-17-32, is making slow progress on account of the hardness of the lime being penetrated. It is drilling at 3,885 feet and is still dry. Midwest Refining Co.'s No. 1 State, NE Section 9-19-38, is cleaning out and underreaming at a total depth of 750 feet, having made no new hole since last report. Cecil Bordages' No. 1 Hughes, Section 27-19-38, is drilling below 550 feet.

In Eddy County, Getty Oil, Inc.'s, No. 1 Hinkle, NE NE Section 23-20-29, which has been attracting considerable attention, is still idle at 1,372 feet with the hole full of oil, but some tankage is being erected and as soon as the two 500-bbl. tanks are finished, it will be given a test. R. D. Compton's No. 4 Mann, SW NW Section 4-18-27, is underreaming at 1,350 feet. Pueblo Oil Co.'s No. 1 Gessert, Section 1-17-31, is still fishing for tools which lodged at 3,679 feet when some gas was encountered at 3,705 feet. If the drillers do not succeed in

(Continued on Page 139)

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LEASES—PRODUCTION

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LEASES—PRODUCTION

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High Test Gasolines in Greater Demand

Cold Weather Stimulates Sales of Antiknock Motor Fuels but U. S. Motor Suffers as Result. Low Cold Test Fuel Oils Firm

By John B. Waldo

CHICAGO, Dec. 12.—The spot market was quiet today the best demand being for zero gas oil and high test gasolines. Prices on these were maintained but U. S. Motor gasoline was offered more freely at 5⅞ cents with 5¾ cents openly quoted to regular trade by several sellers both refiners and marketers. Refiners who were holding at 6 cents or an eighth higher state that except to some of their regular trade they were not able to make sales.

Kerosene was being held at last week's quotations by most refiners but in some cases 4⅜ cents was paid for the 41-43 gravity. Straw zero gas oils were scarce but the dark zero oils were in good supply and prices were unchanged.

Distillates moved fairly well but the market was not as strong as for gas oil.

In fuel oils, the high gravity low cold test product was firm and the heavier oils with a fairly low cold test steady but the ordinary cold test fuel oils were moving slowly and prices were unsettled by free offerings.

Natural gasoline was weak on Monday with lower prices and little demand. The antiknock gasolines were being ordered on contracts steadily with continued inquiry from jobbers seeking these motor fuels.

Demand for Antiknock

It must be very evident to all in the refining and marketing branch of the oil industry, that the use of the antiknock gasolines is to an extent decreasing the sale of the other grades and particularly of the U. S Motor gasoline. This will account in part for the continued report of the slow market for the U. S. Motor product and also for the decrease in the sales of some concerns that have depended for the bulk of their business on that grade and have not been able to secure either from their own plant or by purchase from other refiners, a satisfactory grade of antiknock gasoline. Tests have proven that there is a wide range in the antiknock efficiency of the gasolines which are branded as antiknock gasolines and some of the largest and most careful distributing organizations have been unable to select a make which they are willing to put out under their own brand as a first-class antiknock gasoline. These generally prefer to stick to their former grades or have added a higher gravity believing that a good 64-66 375 or a 68-70 350 gasoline had as many if not more good qualities from the standpoint of motor efficiency as any of the antiknock gasolines that they had tested in their own laboratories or in their own cars.

In this connection, it might be stated that quite a demand for benzol has come from some of these oil companies who are trying out or have tried out and settled on a formula which includes benzol added to the regular U. S. Motor grade. Others are trying out or are using blends of natural gasoline with the regular refinery products and in some cases they have reported that they have met with success in producing by this means a blended motor fuel that gives good results. Very recently some antiknock brands have been offered to the public or to the trade that are the product of a vapor phase process for which high claims are made some of them even stating that their product is fully equal to benzol, others that their gasoline is "better than ethyl gasoline." In most cases the products have been so short a time before the trade that they cannot be considered as fully seasoned and thoroughly tested by use. As might be expected, there have been brands brought out that were no better than the ordinary run of cracked gasoline, which have proven disappointments to their users and to the producers if the latter were honest in their claims. A really good antiknock gasoline must do more than merely diminish or remove the preignition knocks in the engine. It must have to a great extent all the desirable qualities of a good motor fuel, including no bad effect on the auto engine itself.

Extent of Sales

Refiners and distributors alike seem unwilling or unable to state with any certainty the extent to which the new gasolines are being used and what the effect is on the sale of the standard grades as previously and still offered the public. In the city, inquiries made at a number of stations showed that generally speaking, the largest sale of the higher-cost products either high gravity or antiknock gasolines was in the residental districts where the patrons of the stations were sufficiently well to do not to be influenced against the gasoline by the higher costs. At several of these stations the statement was made that their sales of the antiknock products equalled one-third of their sale of the U. S. Motor grade. In the business districts where there were many trucks to be supplied with gasoline the sale of the older grade was about as usual, the demand for the antiknock gasoline being at most not over 5 per cent of the station sales. Several refiners state that their sale of the antiknock product is equal to their capacity for its production and that they have a demand far in excess of the supply. They expect to be able to take on additional business with added equipment. In one case a definite report was made. The refinery put out the new gasoline in a state where it had a large distribution. It gave the new gasoline a large amount of advertising and reported that the result of its efforts was an increase of 20 per cent in the total gasoline sales and that of this total 60 per cent was antiknock motor fuel. There are a good many motorists who will try a new gasoline once as many people will try any new thing. In this particular instance the claim is made that the sale of the new gasoline is continuing at the rate of about 50 per cent of their total gasoline sales. The price is 3 cents higher than that of the U. S. Motor grade. It is not, however, necessary to have a new gasoline to secure a higher price. There are many organizations which will sell the regular 64-66 375 gasoline at 3 cents above the normal station price and some that have a good business on the 68-70 350 gravity at 5 cents above the normal price.

Gasoline Market Active

The gasoline market last week and more particularly during the first half of last week, was seasonably active, although quite spotted. There was no steady demand but on some days a fairly good business for the season was done by some sellers while others had an equally good business on some other day. The business was not a continuing demand but came in streaks and some secured a good portion of the going orders one day to be exceeded by others the next. This is often the case in the market when the demand is none too active. There was a good deal of shopping around for the best possible price obtainable. Contracts were generally reported to be moving steadily but the quantities called for by the contracts are reduced for the season. The northern part of the territory was largely out of the gasoline market as winter had set in before the cold spell reached Chicago and the more southerly parts of the district served from this city.

Late in the week the severe cold spell was against gasoline sales and the market for all gravities was held back by the blizzard. The higher gravities and particularly the 64-66 375 endpoint was steady to firm with several refiners not offering for shipment for several weeks owing to export sales.

The demand for natural gasoline was chiefly for the A and AA grades. The situation at the differential points such as Ohio and eastern Michigan showed no improvement as to prices quoted. Refiners who need a temporary outlet for a surplus from Mid-Continent points can and do accept business at prices that are below their quotations to the buyers in the territory where the bulk of their regular business is done and feel that in so doing they do not disorganize their home markets.

Kerosene Movement Slow

Kerosene has continued to move slowly and prices remain very closely held at 4½ cents for the 41-43 and at 5 cents for the 42-44 gravity. Some refiners who have been holding for an eighth of a cent more for each grade have reduced their price to the general market level. Several refiners state that they have sold as much of the higher as the lower gravity but they also admit that their business in either gravity has not been large. Some buying for export has been noted and it is evidently this demand that is absorbing the surplus which might otherwise come on the market. The domestic movement is strictly seasonable.

Distillates in Better Demand

Distillates have been in better demand due to the severe cold snap of the middle of last week. There was quite a rush of orders for immediate movement but the business was for the most part in small orders although some more sizeable ones were booked for delivery over the next month or more. There was no general change in quotations but the higher range was more generally asked. Some refiners who have held for the 3⅜-cent price reported a substantial increase in their business due both to the increased demand from their regular trade and orders from new customers for this article. Refiners with special grades, one in particular which offers two grades both with a 38-40 gravity but with considerable difference in the flash which they quote at 3¼ and 3½ cents, state business was more active on this product in point of actual shipments than for any week this season. The consumption was undoubtedly largely increased during the middle of last week. Locally the cold did not continue and higher temperatures prevailed during the latter part of the week but there was enough demand to bring many distributors into the market either for deliveries on contract or for spot business. Supplies of desirable oil are still available and the tendency is merely towards a firm market for apparently the severe weather was just a temporary cold snap, not a settled, steady period of cold weather.

Demand for Burner Oil

The demand for domestic burner oil was felt most strongly in the zero gas oil market. Speaking roughly, the demand for zero gas oil for domestic use exceeds the demand for distillate two or three times. The lower price has made it attractive to consumers and the new makes of burners use it as efficiently as distillate. It is also claimed for it by the burner makers, that is, of those which will operate on a gas oil that the heat generated is more intense.

Right now there are buyers who are seeking straw gas oil, clean, odorless and with a low flash and find it hard to buy at the price which they can pay. Refiners know this and are generally holding for 3¼ cents to dealers. Aside from the zero oils the demand for gas oil is rather dull although there has been a better inquiry since the cold weather of last week. Some of the gas companies have shown awakened interest in gas oils. With many industries now is the zero hour in buying largely because of inventories. The buyers of such concerns are holding their orders for more than immediate requirements. The straight run gas oil with the usual rather high cold test is moving slowly at 2½ cents to users.

Demand for Zero Oils

The demand right now is for the zero oils. There is no large industrial demand and the recent reports of the small amount of business done by the steel and auto companies as well as many other important lines during November shows the reason why the demand for fuel oil has been so light. The outlook is better now. For one thing the public generally must resume buying on a larger scale than they have been doing this year and it is very probable that 1928 will witness a large purchasing.

The cold spell proved that stocks of low cold test oils in the users' tanks are small. There was a rush of small orders. The distributors came into the market for immediate delivery of considerable quantities against contracts. Some of these had been unable, so they stated, to take in any oil very shortly previous to the cold weather. If it had only continued the demand would have been much larger but it has served as a warning and dealers and users will not permit their stocks to sink to such low levels again for some time. Actual price changes have been few. The market is more firm and the spread between the low cold tests and the ordinary grades of refinery fuel oils is more marked. That was the real difference at the close of last week as compared with the week previous. What is looked for now is for some increase in the demand for low cold test oils especially from those who use the oil for heating and possibly a little better demand from a few industries that cannot wait until after inventory before replenishing their supplies. Some refiners were unwilling to quote except for immediate shipment on gas oils but on fuel oils there has been no difficulty in getting quotations over the balance of the year, at prevailing market prices.

Lub Oils Quiet

There is little doing in lubricating oils. Some large orders have been placed for export, refiners state, but the domestic demand is just about seasonable and in the motor oils is slow. Prices are ruling in favor of buyers of any quantity.

The general tank wagon scale has not been changed. There have been rather less local adjustments made to meet local competition and the price situation is running along with little change and as has been the case with much complaint regarding the reduction of legitimate profits from rebates and price cuts. The furnace oil business has been more active. The Standard Oil Co. of Indiana on December 7 adjusted its scale of discounts so that a smaller delivery is required to secure the same discount. Under the new scale the basic price is the local tank wagon price, which in Chicago is 9 cents for a 38-40 distillate. This price applies on deliveries of 99 gallons or less. In deliveries of 100 gallons and up to 349 gallons the discount of 1 cent applies. The former range was 100 to 799 gal-

(Continued on Page 139)

Cut in Fuel Oil Contracts in East

Gasoline and Kerosene Were Little Changed. Cold Weather Stimulates the Demand for Furnace Oils

By N. O. Fanning
New York Bureau, The Oil and Gas Journal, Room 629, No. 101 Park Avenue, New York, N. Y.

NEW YORK, Dec. 12.—Price cutting on fuel oil contract business constituted the principal development in the refined petroleum market during the past week. Gasoline, kerosene and other products failed to undergo much change, although the position of the export gasoline market was showing improvement as a result of reported revival in buying operations at the Gulf.

A sudden cold snap has brought out an appreciable jump in furnace oil consumption and marketers report their contract deliveries are speeding up. Kerosene has been affected to a lesser extent by this situation. Oil men attribute the falling off in kerosene buying to the larger use of electric and gas heaters in many cases, while the generally favorable financial position of consumers indicates that the use of kerosene for home heating is waning to a considerable degree.

The jump in crude oil prices in eastern fields last Saturday has given rise to a better feeling in the market, although leading oil men here generally discount the effect of this increase upon the balance of the crude oil market. In connection with the advance, one agency says: "The advance in prices of leading grades of Pennsylvania crude is attributed to improved demand, resulting in a better balanced storage position of South Penn Oil Co., the principal purchaser of those grades. While the extent of this improvement has been limited, as indicated by the amount of the advance, there may be further upward adjustment of prices of other eastern crude grades to bring them in line with the advance in higher grades. In the past 10 days to two weeks refiners have been buying more crude and as a result the company's stocks which were tending to accumulate are again approaching normal. Usually refiners begin to buy Pennsylvania crude in larger quantities around November 15 in order to make up stocks of lubricating oils for spring delivery. This year such buying was delayed with refiners apparently expectant of a further cut in Mid-Continent crude."

Gasoline

Gasoline has stiffened a little, with 8⅛ cents to 8¼ cents representing the market, against a range of 8 to 8¼ cents last week. While quantities of "outside" gasoline, such as recent shipments from Mexico and Trinidad, occasionally appear on the market, distributors seem to be able to absorb this stock with a minimum of disruption to the wholesale market.

The retail gasoline situation is still mixed. Prices are quoted at filling stations in Greater New York all the way from 15 to 20 cents a gallon. Apparently there is no uniformity, even in the schedules of companies operating chains of stations. "Local competition" in this connection means the price that the station across the street is charging, and this is the price which must be met.

Among some of the larger station operators, there is more of a tendency to get away from price cutting to a campaign of stressing quality as a means of increasing volume, but this campaign has not progressed very far yet.

Kerosene

Tankwagon kerosene has failed to show the anticipated improvement, and marketers have not changed their price in local territory, which is 15 cents a gallon. While the jobbing market for water white is quoted at 7½ cents, it is reported in trade circles that it would not be difficult to get confirmations at 7¼ cents. A slight pick-up in demand has accompanied the arrival of the season's first real cold spell, but colder weather has not been with us long enough for the kerosene market to reflect the full extent of the broadened outlets.

Refiners are viewing the furnace oil situation with a great deal more satisfaction. Up to within a week ago it appeared they were in for an unfavorable season, but the cold snap has changed things for the better and there has been a much heavier consumption of furnace oil. The refiners are carrying fairly large stocks of furnace oil, but it now appears they will be able to move this oil into consumption with a minimum of disturbance to the price basis. Owners of domestic oil-burning units who stocked up at the beginning of the fall season are coming back into the market to have their tanks refilled, forcing marketing organizations to keep their delivery organizations working overtime for the past few days.

Local exporters report a better inquiry for kerosene, foreign buying having played an important part in maintaining the local market during the past several weeks. There is a good movement of cased kerosene abroad, with inquiry for bulk kerosene rather slow.

Fuel Oil Competition

With heavy supplies of cheap fuel oil reaching the Atlantic Seaboard, refiners and marketers have a broader margin to work on, and sharper competition has been accompanied by price cutting. While leading factors locally were quoting $1.35 a barrel at refineries, and $1.41½ delivered alongside, one important factor was booking business at $1.20 a barrel, refinery basis. The latest cut, carrying the market 15 cents under the established market and 55 cents under the high for the year is attributed to a scramble for some large contract business on the part of a few sellers. A number of bunker oil contracts with steamship lines, written on a $1.35 basis, contain a clause providing that the buyer may shift his purchases to other companies whenever fuel oil is available from other sources at 15 cents a barrel or more under the contract figure named by the oil company holding the contract. By offering at $1.20 a barrel the factor above mentioned, the Gulf Refining Company, has succeeded in cutting into the business held by other marketers. The scope of this cutting is not extensive, however.

Comment in market circles indicates that marketers do not look for a general lowering of fuel oil prices to $1.20, but that, on the contrary, the market is expected to steady around the $1.35 level, with possibly another 5-cent cut by the first of the year. Heavy arrivals of oil from the Gulf Coast, Colombia and Venezuela, in addition to the regular movement of California fuel oil eastward, has created a surplus of fuel oil along the Atlantic Seaboard. In the fact of heavy overproduction of crude oil, and a low price basis, fuel oil prices held up remarkably well during the greater part of 1927, prices along the Atlantic Seaboard taking considerable time for adjustment to revised production costs.

Another weakening factor in the fuel oil situation, slow to be reflected in selling prices locally, has been the drastic reduction in tanker rates over the past several months, greatly reducing the laid-down cost of fuel oil from California, Gulf ports, and Central America at Atlantic ports.

Gas Oil Steady

Movement of gas oil has been exceptionally heavy over the past several weeks, and the market is in good position locally. Refiners report a good demand for deliveries on contract from industrial users, colder weather having stimulated business to a marked degree. The market remains firm at 5½ cents for oil of 28 degrees gravity or better.

Diesel oil has not been involved in the weakness which has brought about the reductions on fuel oil, and sellers continue to quote $2.10 a barrel, in bulk, at refinery terminals, with the usual differential for deliveries alongside. While some buyers of Diesel oil have switched over to gas oil to some extent, the latter oil being better for use in cold weather, the amount of business involved is not of sufficient importance to adversely affect the Diesel oil price basis.

Lubricating Oil

Prices have been affected somewhat by sharper competition for spot business. Sellers reduced 28 red paraffin one-quarter cent to 7 cents a gallon this week, with 250 red paraffin quoted one-half cent lower at 10 cents. The market for 225 red paraffin is lower by one-half cent at 9½ cents a gallon, while the 200 red paraffin market is down one-half cent at 9 cents a gallon. Heavier receipts of red oil from the Gulf, coupled with the current slack buying, are responsible for the price cuts. Continued heavy offerings of western steam cylinder oils has tended to weaken the market situation somewhat, with buyers holding off in an effort to force prices to lower levels.

Jobbers appear to be well stocked with motor oils for the present and are disposed to withhold further business from the market until after the turn of the year. In some quarters, a disposition is shown to limit holdings as much as possible, in order to facilitate the annual inventory work next month. Other buyers believe prices will go still lower if buying support is withheld.

In the industrial oils division of the market, refiners are having some difficulty with their rayon processing oils, and are devoting considerable time and attention to research work designed to straighten out the situation. A number of the refiners have already tried out several formulas for processing oils but have found that their product, when placed in commercial operation in the rayon mills, has developed faults. The proper processing of rayon, it appears, presents more of a problem from the standpoint of lubricating, than other textiles, the excessive hygroscopic quality of rayon yarn making proper lubrication a difficult proposition. Mineral oils in combination with vegetable oils have been found most satisfactory thus far.

Large Export Order

The Midwest Refining Co., a subsidiary of the Standard Oil Co. of Indiana, is reported to have received an order through the Robert F. Cruikshank Corp., representing European clients, for 35 cars of bright stock for manufacturing motor oil for export. The movement of the oil has started from Casper, Wyo., by rail to New Orleans and thence by tanker to Europe.

Paraffin Wax

Recent concessions by refiners on prompt wax business has tended to undermine confidence in the price basis, and buyers were holding off the market this week. This applies to the export trade as well as the domestic. Stocks of some grades appeared to be top heavy, and resale offerings tended to weaken prices. Refined 125-127 was available at 3⅞ cents a pound, New York, a reduction of one-eighth of a cent per pound, with 130-132 a m.p. off one-quarter cent at 4½ cents and 135-137 a.m.p. showing a corresponding reduction to 5¼ cents a pound.

Domestic consumers bought rather freely during the early part of November and are well supplied for their needs for the remainder of the year. Buyers are showing a disposition to put off additional purchasing until the middle of next month, at which time they will have completed their first-of-the-year inventory work. Distressed stocks of wax are not prominent on the local market, although some few lots of speculatively held wax make their appearance from time to time.

Foreign buyers are interested in offerings, and are willing to place firm business on recessions, but are generally disposed to hold off in anticipation of lower prices, unless they can obtain sizeable concessions on spot business.

Petrolatums

A reactionary tendency developed in the market for snow and lily white this week, and prices were adversely affected by falling demand. Recent advances have been such that buying has been affected, and demand showed a marked let-down. Sellers this week were offering concessions of one-half cent a pound on lily white at 8½ cents, and were quoting snow white at 9½ cents a pound. Cream, however, was in comparatively light supply, and showed a gain of one-quarter cent at 6½ cents per pound. Dark green was selling in a small way for the export trade, but the price has not responded to the advances scored recently in higher grades, holding at 1⅞ cents a pound.

Retail Lubs Lower

Filling stations, which formerly depended on their lubricating oil sales for a large percentage of their profit, have started cutting prices on their lubs in many instances. On the average, well-known brands of lubricating oil sell at retail, from a drum, at 25 cents a quart to the motorist, with gallon cans priced anywhere from 90 cents to $1.25. During the past few weeks, however, there had been a marked tendency on the part of the filling station operators to cut these prices. Bulk oil can be bought along the road at anywhere from 15 to 25 cents a quart, while oil in sealed one-gallon cans is anywhere from 80 cents to $1.25. One practice which has made its appearance at neighborhood filling stations is that of giving customers receipts on all gasoline sales. When the customer has accumulated $25 worth of these receipts, the filling station operator will drain his crankcase and refill it with fresh oil, free of charge. This system has replaced the old scheme of selling coupon books at 10 to 20 per cent concessions in most instances.

Charter Market Weak

Prices in the tanker charter market have declined to the lowest point reached since July, 1925 and the market shows no signs of recovery. There has been more activity in the market for clean bottoms during the past week, due to export gasoline buying, but this has not resulted in strengthening rates. In addition to single trips, clean vessels have been closed for both time charter and consecutive voyages, and there is some inquiry for both the latter. The dirty market is quiet at the moment, but there is some demand for gas oil tonnage both from California and the Gulf; lubricating business can also be placed for handy sized tonnage, according to brokers here. Black Sea trading is dull. There is still some inquiry for consecutive voyages in this trade, and inquiries are also reported for tonnage for Vladivostok as well as South Africa and India. The chartering of tonnage for the California and Japan runs was put through at 70 cents, with one steamer accepted at 69 cents. Several vessels have been closed from Curacao to New York and a large vessel was taken several days ago for crude oil on the basis of 18 cents, four trips, Gulf to North Hatteras, commencing January.

Tests Show Gasoline More Volatile

Annual Survey of Motor Fuels in Tulsa Discloses Important Changes in Distillation Range. Unsaturate Content Greater

By W. T. Ziegenhain

Greater volatility and an effort to conserve the unsaturated hydrocarbons which are directly related to the antiknock value are the two outstanding developments shown in The Oil and Gas Journal's second annual survey of gasolines in Tulsa. The volatility development is clearly shown in the lower distillation range of the gasolines up to the 50 per cent point when compared with the gasolines last year. The antiknock characteristic is reflected in the tests covering the solubility of the gasolines is sulphuric acid.

The first survey of gasolines was made in Tulsa in December of last year. Tulsa is not only one of the major market centers of the Southwest from the standpoint of consumption but it is also a distributing center for an exceptionally large number of refinery organizations which have their own distributing facilities there. For this reason it is believed that the results obtained from the survey are representative for the Southwest and Middle West.

The companies whose gasolines were used in this survey included the Sun Oil Co., Producers & Refiners Corp., Marland Refining Co., Barnsdall Refineries, Inc., National Refining Co., Skelly Oil Co., The Texas Company, Magnolia Petroleum Co., Sinclair, Continental Oil Co., Empire Oil & Refining Co., Pierce Petroleum Corp., Roxana Petroleum Corp., Transcontinental Oil Co. and two independent jobbing organizations. All the refinery organizations either directly or through subsidiary organizations have their own drive-in stations with the exception of the Producers & Refiners Corp., whose products are handled exclusively by a jobbing organization.

With two exceptions the gasolines tested last year were from the same companies. The main purpose of the survey was to compare the gasolines this year and last with the view of determining any change in specifications as reflected in distillation tests. The samples for both years were obtained at the drive-in stations of the companies by a representative of The Oil and Gas Journal. The tests were made by the Tulsa Laboratories, Inc.

CHANGES IN GASOLINE SPECIFICATIONS

The Oil and Gas Journal during the past week completed its second annual survey of gasolines in Tulsa. Samples of 16 gasolines were tested at the laboratories of the Tulsa Laboratories, Inc. The tests which are believed to be representative of gasolines for the Southwest and Middle West show the following changes when compared with the tests made in December, 1926:

REGULAR MOTOR GRADE.

Decided increase in the volatility for the first 50 per cent of the distillation range in 1927 compared to 1926.

Improved fractionation in 1927 throwing a slightly greater amount of heavier fractions into the last 50 per cent, with the same average endpoint shown for the two years.

The average amount of gasoline soluble in sulphuric acid increased materially in 1927, indicating a greater percentage of cracked gasoline and a tendency to conserve the unsaturated hydrocarbons through revised treating methods in order to improve the antiknock value of the gasoline.

Slightly increased distillation loss in 1927 as a result of the greater volatility.

Tulsa continues to be supplied with a great variety of gasolines from the standpoint of their distillation range.

PREMIUM GRADES.

Slightly greater volatility shown throughout the entire distillation range in 1927 compared to 1926.

No decided difference in the distillation range between the average of the premium grades and many of the regular motor grades. The justification of the premium lies principally in the high antiknock value of the premium gasolines.

BLENDED GRADE.

Instead of the naphtha-natural gasoline blend sold in 1926, the blend is now U. S. Motor gasoline with the natural gasoline due to the small difference in cost. This year's product is much like the regular motor grades being sold, the difference being in the greater volatility over the first 30 per cent and the correspondingly higher distillation loss.

The accompanying tables summarize the results obtained from the distillation tests. Every sample of the regular motor grade showed a marked increase in the volatility of the first 20 per cent fraction but one and that remained the same as last year. There was a corresponding greater volatility of the first 50 per cent in a majority of the samples with a slightly greater amount of heavier fractions included in the last 50 per cent with the same average endpoint for the two years.

Regular Motor Grade

In comparing the average results on the gasolines sold last year and this year the accompanying table clearly shows this increase in volatility in the regular grade. There are 14 points difference in the average initial, this year's average being 99 and last year it was 114. The 20 per cent mark is consistently lower also, the average this year being 180 against 192 last year. This difference is emphasized when it is remembered that the U. S. Motor specifications allow the 20 per cent mark to go to 221.

At the 50 per cent mark the averages for the two years are about equal and from there on the average of the 1927 samples showed slightly less volatility. This is due to the improved fractionation at refineries. Since a high volatility is most essential over the first 20 to 30 per cent to facilitate easy starting it might be deduced from these results that refiners are recognizing this requisite and are meeting this through increased used of natural gasoline rather than by making their refinery production more volatile by excluding the heavier fractions from the gasoline. The increased distillation loss shown for 1927 reflects the greater volatility this year.

Individual Samples

Studying the individual samples, many may be seen to vary widely from the average. For example the lowest 20 per cent mark is 162 and the highest is 196 while the average is 180 for this year. Similarly, the lowest 50 per cent is shown as 244, the highest 306 and the average is 267. In analyzing the difference in the 90 per cent fractions these are seen

TABLE SHOWING COMPARISONS BY SAMPLES

TABLE NO. 1

Tests on representative samples of gasoline marketed by the major refiners operating their own service stations in Tulsa. These samples were secured from the same stations each year by a representative of The Oil and Gas Journal. Samples bearing the same numbers were made by the same company except in the case of Nos. 4 and 10.

December 6, 1927

	Regular Motor Grade												Premium Gasolines			Blend
Samples—	1	2	3	*4	5	6	7	8	9	*10	11	12	13	14	15	16
Gravity A.P.I., Baume	60.7	61.3	62.0	60.2	60.9	58.8	61.0	62.2	60.1	60.0	60.0	57.5	62.2	58.6	60.2	61.6
Per cent sol. in 1.84 H_2SO_4	20 0	14.0	12.0	14.0	4.0	2.0	14.0	14.0	9.0	14.0	16 0	16.0	20.0	20.0	10.0	10.0
Initial boiling point	94	100	96	96	102	104	96	94	96	94	96	96	114	98	106	94
Per cent at degrees Fahrenheit 10	140	158	148	142	138	154	144	148	144	142	146	150	156	146	156	146
20	176	182	184	180	162	186	170	184	176	178	184	196	178	186	196	180
30	208	212	212	210	194	212	208	204	200	210	216	234	206	218	220	210
40	236	234	242	240	234	236	238	226	224	240	244	268	228	250	240	236
50	262	258	264	268	274	262	266	250	244	276	278	306	250	280	258	264
60	286	286	286	300	304	288	292	268	264	304	302	332	272	300	274	294
70	314	308	306	332	330	314	316	300	286	330	330	362	298	326	296	324
80	336	332	334	364	356	348	346	324	318	364	362	386	326	354	326	356
90	366	360	360	396	386	378	382	354	356	396	394	416	360	380	366	386
Endpoint	410	404	396	436	437	420	432	396	422	436	434	450	410	408	440	422
Residue	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Loss	1	1	1 5	1	1	1	1	1.5	1	1	1	3	1	2	1	3

*Samples not from same company.

December 6, 1926

	Regular Motor Grade												Premium Gasolines			Blend
Samples—	1	2	3	*4	5	6	7	8	9	*10	11	12	13	14	15	16
Gravity A.P.I., Baume	60.8	61 1	63.0	57.0	59.9	59.2	61.1	58.9	60.8	62.1	58.3	58.0	62.6	57.5	59.8	62.9
Doctor	Sour	Sour	Sweet	Sweet	Sweet	Sweet	Sweet	Sour	Sweet	Sweet	Sour	Sweet	Sour	Sweet	Sour	Sweet
Per cent sol. in 1.84 H_2SO_4	12	11	1	10	2	6	8	10	7	2	16	10	28	10	2	2
Initial boiling point	106	106	116	124	120	116	106	112	110	124	116	110	106	124	122	94
Per cent at degrees Fahrenheit 10	156	158	168	174	162	162	150	162	148	166	164	154	140	172	170	130
20	186	188	192	212	190	194	184	196	180	192	194	196	166	206	200	162
30	208	222	210	240	218	224	220	224	206	212	226	234	186	230	220	194
40	230	244	226	266	250	256	248	248	228	224	256	264	206	254	242	234
50	252	266	240	288	274	284	276	278	248	246	282	294	234	276	260	300
60	276	286	252	310	300	312	300	300	270	264	308	318	260	300	280	352
70	300	306	274	330	324	344	330	326	298	280	332	346	286	326	302	386
80	328	322	296	356	348	370	358	352	328	300	368	376	320	352	324	416
90	362	354	330	388	376	400	396	386	372	336	394	404	364	388	360	436
Endpoint	410	412	390	424	436	440	440	436	436	392	450	450	416	424	424	456
Residue	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Loss	1	1	1	1	1	2	2	1	2	1	1	1	1	1	1	1

*Samples not from same company.

to range from 354 to 416 while the average is 379. Typical of the improved fractionation No. 3 refiner made a gasoline having a 90 per cent point of 330 last year and an endpoint of 390. This year that refiner shows a 90 per cent point of 360 with an endpoint of 396. In addition to the distillation tests the gravity of each sample was taken and an increase of .4 degree is seen for the year, reflecting the increased use of natural gasoline and the conservation of the lighter fractions at the refinery.

More Cracked Gasoline

Along with this increased use of natural gasoline, there appears to be a greater utilization of cracked gasoline. The actual production of cracked gasoline is known to be higher but judging only from the results of the tests in which the amount of gasoline soluble in sulphuric acid is taken as an index of the relative amount of cracked gasoline, the fact that the average increased from 7.9 per cent to 12.4 per cent over the year, there is added evidence of this.

But not all of this increase may be attributed to the increased production of cracked gasoline. Refiners have revised their treating methods to conserve these unsaturated hydrocarbons because of their generally high antidetonating properties.

Premium Grades

The same discussion regarding the improvement in the volatility of the regular motor grade might be applied to the premium grades as well. This is particularly true of a very popular grade of premium gasoline known here as No. 14. Over the year there has been a decided increase in the volatility all through the distillation range. In 1926, the initial of this gasoline was 124 and this year has been lowered to 98. Similarly, the 20 per cent point has been lowered from 206 to 186. There has been corresponding changes made in the 50 per cent, 90 per cent and endpoint. This again indicates the recognition of the importance of sufficient volatility to allow ease of starting and speedy acceleration.

But the premiums exacted for these gasolines are usually for the antiknock properties rather than any superior qualities in their distillation range. In fact there are several gasolines sold as the regular motor grade which have a lower distillation range than these premium grades. Noticeable also is the relatively low gravity and high per cent soluble in sulphuric acid indicating these premium gasolines are cracked products, or contain a large percentage of cracked gasoline.

Blended Gasoline

Another important change that has taken place in the gasolines being sold in Tulsa has come about as a result of the market conditions. One company having a limited amount of natural gasoline production had been blending this with naphtha to make a rather high gravity blend having an endpoint near 450. Now because refinery gasoline may be purchased for about the same price as naphtha, U. S. Motor gasoline is purchased and the required amount of natural gasoline added to bring the gravity to 61 or better and this new blend is sold as a high gravity U. S. Motor gasoline. This company has consistently sold both the naphtha blend and the refinery blends at prices generally 2 cents under the market. The two sets of tests on this company's products are shown under No. 16 and the change may be readily seen.

While these tests were taken on but one sample from each representative station and might not exactly represent the grades sold by the respective companies throughout the year, the samples both last year and this year were taken from the same places so far as possible and at the same time of the year so as to catch any seasonal change in marketing policies.

HIGH-TEST GASOLINE IN GREATER DEMAND

(Continued from Page 136)

lons. For all deliveries over 349 gallons the discount from the local tank wagon price is 1½ cents. It was on over 800 gallons before. Several independent distributors have been allowing the full discount on deliveries of 400 gallons so that the new discount is very little less than the custom of many local concerns. The local rates are badly slashed by some of the distributors and a leading official of the local organization when asked what was the real list of prices in this city said that he only wished that he knew what it was. As to gasoline gallonage, the dealers report that they are doing a very fair, seasonable business and in some localities they have done better owing to favorable weather and more good roads but it is not the time of the year to do a large business in motor oils or fuels.

ROCKY MOUNTAIN AREA

(Continued from Page 132)

clearing the hole within the next few days, it is probable that the rig will be skidded and a new hole started. Skelly Oil Co.'s No. 1 Lynch, Section 22-17-31, which was plugged back to 3,622 feet, where it was pumping 18 bbls. of oil and one-half barrel of water, is showing a slight increase in production, the quantity being about 2 bbls. increase each day. the water having been exhausted. It is probable that it will be shot to see if the quantity can be further increased. The Texas Production Co.'s No. 2 Robinson, NW SW Section 35-16-31, is drilling at 3,824 feet and the pay horizon is expected within the next 50 to 100 feet.

Chaves County has only one active operation, this being McQuigg & McQuigg's No. 1 Neis, Section 7-5-29, which is drilling below 1,000 feet.

The Ohio Oil Co.'s No. 1 Jordan Ridge, Section 24-7-29, in Quay County, is drilling ahead at 4,492 feet and is getting rather deep.

The Congress-National-Messick & Bell's No. 1 Garland, SW SW NE Section 34-29-11, in the Kutz Canon district, San Juan County, has suspended drilling at about 2,000 feet, and it will be shut in as a small gas well. Rig has been moved 1,800 feet to the southwest where another test will be drilled. Continental Oil Co.'s No. 17 Santa Fe, SE NE Section 2-29-19, Rattlesnake Dome, which cleard the hole to the old bottom at 3,785 feet with a rotary drill, is changing over to cable tools and soon will be making new hole for the first time in many months. J. Warren Miller, who recently drilled No. 1 Markey, on Section 16-29-13, near Farmington, is starting another test on the edge of the town on the Umbenhour place, using the rig that drilled the Markey well. This test will go on to the Mesa Verde sand which has never been drilled in that vicinity. The Great Basin Oil Co. and the San Juan Petroleum Corp. are reported to have a one-third interest each in the test. The Huntington Park Oil Co.'s No. 1, Section 29-30-9, in the Blanco district, has been further delayed. The string of 5 3/16-inch casing was dropped when it had almost reached bottom. Total depth is 5,160 feet in the top of the Mesa Verde where it is making a show of gas, probably 100,000 feet. Officials of the Union Oil & Mining Co. are inspecting its No. 2 Pine, Section 8-29-9, in the Blanco district, which has not made any depth below 2,959 feet for nearly a year due to several strings of tools being in the hole. All efforts to clear the hole have been futile and the officials will decide whether it will be abandoned and another test started. The well makes a little oil at intervals.

In McKinley County, there was no news of an encouraging nature and unless some unexpected developments take place soon several of the drilling wells probably will be abandoned at an early date. The Continental Oil Co.'s No. 1 Garcia, Section 9-17-7, is running 6⅝-inch casing at 3,720 feet. It is probably in the Dakota now. Producers & Refiners' No. 2 Hospah, Section 12-17-9, is still bottomed at 1,767 feet and underreaming to lower casing. Beasley & Cook, who have one producer in the Seven Lakes area making 5½ bbls. of 35 to 42 gravity oil per day, this week shot their No. 2, SE SW Section 17-18-10, and is preparing to start No. 3. This firm is endeavoring to work out a plan for trucking oil to Thoreau, on the Santa Fe Railroad, and shipping it to a local refinery at Albuquerque. They estimate that if such a plan can be worked out profitably, that it will increase the activity in the field where small wells are found at 400 to 500 feet. The San Juan Coal & Oil Co. have seven of these shallow wells which may be cleaned out and put on the pump if some way for marketing the oil is found.

Montana

The Hannah Porter well that was blazing last week in the northern part of Sunburst Field is now on the pump and making 800 bbls. daily. After this well had burned for several days it was predicted freely that the well would not produce commercially again, but the fire seems to have had little or no effect on the well's production.

Grave fears were held last week during the blizzard and severe cold that swept across northern Montana, when it was found that 25 men of the Hope Engineering Co., helping build the pipe line from Sunburst to Great Falls, were missing in the storm. After the worst of the storm abated, rescue parties started out and the next day all 25 men were brought in alive. Some suffered frosted fingers and toes, others had more severe frozen parts, but on the whole it was considered very fortunate that none lost their lives.

Field work in Sunburst and Cat Creek practically ceased during the storm. Pumping was kept up on some of the leases because the storm does not affect this kind of work as it does drilling wells, but the intense cold congealed the oil in the lead lines so that many leases had to shut down.

The Sunburst Field will have about 850 wells by the end of 1927, the field's production will be less than 1926 and Sunburst produces a little over 85 per cent of the total production of Montana.

The new Bannatyne Field in Choteau County is not coming up to expectations. The last well completed the past week is another duster, although a showing of oil was had. The sand showed that this well was about 90 feet under the level of the discovery well.

The Soap Creek Field in Big Horn County, Montana, is to be put on production this spring according to reports. This field lies partly on the Crow Indian Reservation in the south central part of the State and produces oil from the Amsden and Tensleep sands; the oil is a heavy asphaltic base.

ROCKY MOUNTAIN PRODUCTION
Runs From the Fields

Wyoming	
Salt Creek	36,310
Teapot	.....
Big Muddy	2,790
Grass Creek	2,350
Elk Basin	1,010
Greybull	20
Dutton Creek	.....
Notches	.....
Rock River	2,710
Rex Lake	.....
Lance Creek	1,090
LaBarge	620
Mule Creek	670
Poison Spider	310
Hamilton	610
Osage	320
Lander	810
Pilot Butte	.....
Ferris	50
Byron	60
Lost Soldier	2,560
Simpson Ridge	40
Total Wyoming	52,330
Montana	
Cat Creek	1,920
Lake Basin	150
Kevin-Sunburst	11,000
Total Montana	13,070
Colorado	
Florence	1,074
Moffat	1,179
Fort Collins	2,658
Walden	.....
Iles Dome	1,343
Rangely	100
Tow Creek	419
Boulder	25
Total Colorado	6,798
New Mexico	
Rattlesnake	35
Hogback	600
Cap Rock	103
Table Mesa	110
Artesia	1,394
Total New Mexico	2,242
Total Rocky Mountain	74,440

MID-CONTINENT SCOUTS ASSOCIATION MEETS

The quarterly meeting of the Board of Directors of the Mid-Continent Oil Scouts Association was held at the Mayo Hotel in Tulsa. A reorganization has been perfected and a new constitution and by-laws adopted. The purpose of this organization is "to promote wider acquaintanceship, to increase good fellowship among its members and create a higher standard of efficiency. It is not the intention of the Mid-Continent Oil Scouts Association to dictate in any manner or form the policies of the respective companies toward employes holding membership in this organization; but rather it is their earnest desire to co-operate to the fullest degree with said companies, to promote a better understanding between employers and employes and to strive to give better service with greater efficiency."

The active membership is extended to all men in scouting, land, or lease work, employed by officially recognized oil and gas companies. Honorary membership is extended only upon approval of the board of directors.

It was voted to hold the annual 1928 convention early in May, and a committee was appointed to confer with the Chambers of Commerce in a number of cities. Shawnee, Oklahoma City and Guthrie were mentioned as being favorably located.

A special meeting of the board of directors will be held Saturday night, January 7 at the Roland Hotel in Bristow, to make the final arrangements for the convention.

CHANGE STATION NAMES

The Mid-Continent Petroleum Corp. of Tulsa is rapidly changing the stations which it has purchased from jobbing organizations to conform to its name and established trade-marks. These properties include those of the Black Hawk Oil Co. of Waterloo, Iowa, located in Iowa and Minnesota which were recently purchased.

The Mid-Continent now has approximately 500 bulk and service stations located in the Middle West and adjoining states, practically all of which have been acquired during the past two years. Due to its acquisition of the properties of the Davies Oil Co., Leader Oil Co. and Black Hawk Oil Co., the Mid-Continent is now the second largest distributor in Iowa.

AVERAGE SPECIFICATIONS

Average specifications on representative samples of gasoline marketed in Tulsa, Okla., as regular motor grade and as premium grade. Data derived from Table 2.

	Average Results Regular Grade		Average Results Premium Grade	
	1926	1927	1926	1927
Gravity A.P.I., Baume	60.0	60.4	60.0	60.3
Per cent sol. in 1.84 H_2SO_4	7.9	12.4	13 3	16.3
Initial boiling point	114	99	117	106
Per cent at degrees Fahrenheit 10	160	146	161	153
20	192	180	191	187
30	220	210	212	215
40	245	239	234	239
50	269	267	257	263
60	291	293	280	282
70	316	319	305	307
80	342	347	332	335
90	375	379	371	370
Endpoint	426	426	421	419
Residue, per cent	1.0	1.0	1.0	1.0
Loss, per cent	1.2	1.6	1.0	1.3

REFINING AND MARKETING

Receivership Asked For Protection of Galena Signal Co.

HOUSTON Tex., Dec. 12.—Although claimed to be solvent, the Galena-Signal Oil Co. of Texas was placed in the hands of a receiver the past week. McDonald Meachum of Houston was appointed receiver, and qualifying under bond of $100,000, is taking over active management of the company.

The receivership was established on petition of the Galena-Signal Oil Co. of Pennsylvania, the parent company. A formal statement was given out by M. J. A. Bertin, president of the Pennsylvania company, which owns all the stock of the Texas company, which read:

"This action has been rendered necessary by the depressed state of the oil business throughout the country, which has reduced the value of stocks and the prices of gasoline and of all other products, and has slowed up collections to an extent which has made it impossible for refiners to operate except at a loss.

"This step is taken for the protection of the bondholders and other creditors of the defendant company, and of the investment the Galena-Signal Oil Co. of Pennsylvania has in the Galena-Signal Oil Co. of Texas by reason of stock ownership. The assets of the Galena-Signal Oil Co. of Texas far exceed liabilities in amount and bonds are amply secured, but a reasonable time is required in which to collect the credits due the company and to realize on its liquid assets."

The statement further pointed out that while the two companies are related by stock ownership, operations of the two have been along distinctly different lines and the receivership in no way will affect the operating program of the Pennsylvania company.

No definite plans have been announced for the operation of the Galena-Signal Oil Co. of Texas, according to W. N. Long of Houston, president. The company owns a 10,000-bbl. skimming and lubricating oil plant and a 4,000-bbl. cracking plant at Galena, southeast of Houston on the Houston ship channel. The plant has been shut down for several months except for a few intervals when it has been run at part capacity. The company also owns a 150-acre tank farm and pipe lines, the latter operated as the Galena-Signal Pipe Line Co.

The Fidelity Trust Co. of Houston was made a party to the receivership suit as it is the trustee of the bondholders. Among the principal stockholders in the Galena-Signal Oil Co. of Pennsylvania are J. S. Cullinan and James L. Autrey of Houston.

OIL PUMP TAXATION IN TENNESSEE COURTS

NASHVILLE, Tenn., Dec. 12.—The question of whether filling station owners shall pay a privilege tax on oil pumps in Tennessee has gone to the State Supreme Court following a decree by Chancellor John R. Aust of Part 1 Chancery Court in the case of the Gulf Refining Co. versus the State.

Seeking the construction of a provision in the Revenue Bill of 1927 the refining company demanded a refund of $210, taxes paid on oil pumps in filling stations doing business in Davidson, Shelby, Knox, Madison and Dyer Counties. The provision under question states that "each person, firm or corporation or association having, operating or maintaining an oil or gas filling station and selling therefrom petroleum products or benzol direct to the consumer shall pay a privilege in each county based on the number of pumps from which such products are sold as follows: One pump or tank (or the first pump) per annum, $10; on each additional pump or tank, per annum, $5.

The state, in its answer to the original bill filed by the Gulf Refining Co., maintains that the taxation provision applies to both pumps whether they be used for the dispensation of gasoline or lubricating oil. Judge Aust, however, held that "the provision in the revenue law does not properly impose a tax on the sale of lubricating oil and that the complainant is therefore entitled to recover the sum of $210 paid by it to the state." An appeal to the Supreme Court was granted.

POST OFFICE CONTRACT SHOWS MARKET TREND

CHICAGO, Dec. 10.—The motor vehicle department of the Chicago post office has received bids for supplying gasoline for the first quarter of 1928. The quantity required is approximately 250,000 gallons. The Jewett & Sowers Oil Co. are at present supplying the department with its requirements. Bids are asked in two forms, one on a tank car basis f.o.b. Group 3, shipment on government bill of lading, and the other form asked is a differential bid based on the ruling tank car market. Delivery to be made to bidder's storage and by the successful bidder to the department's delivery truck.

The Jewett & Sowers Oil Co. bid one-eighth cent above the tank car market on the differential basis with a maximum of 6¼ cents plus one-half cent for handling and no discount for cash. The Seneca Petroleum Co. bid 6 cents for first month, 6¼ cents second month, 6⅜ cents third month on a straight Group 3 basis and on the differential basis bid, one-eighth cent below the tank car market, maximum 6⅜ cents plus a handling charge of one-half cent and allows a cash discount of one-half of one per cent. The Shaffer Oil & Refining Co. bid 6½ cents first month, 3¾ cents second and third month and on the differential form a straight price "at the market" with a maximum of 6¾ cents plus one-half cent for handling and allows a cash discount of 1 per cent.

The Apex Motor Co. made no monthly bid but on the differential basis it bid one-eighth cent below the tank car market with a maximum of 6½ cents plus three-eighths cent handling charge and 1 per cent cash discount. The Commerce Petroleum Co. bid the tank car price with a maximum of 7¼ cents plus 1 cent for handling and a cash discount of 1 per cent. The Texas Company replied that it was unable to quote. Recent contracts have been on the tank car basis over the period. The announcement of the name of the successful bidder will not be made until shortly before the contract takes effect.

MUST PAY PUMP TAX

CHICAGO, Dec. 10.—The Municipal Court has ruled in the test case brought by a city distributor of petroleum products that the dealer in oils and greases must pay a tax on each measuring device in his establishment that can be used for the sale of any commodity to the public. The oil companies claimed that the actual measuring device used in making the sale was the quart or gallon measure and that the tanks were simply used for storage and the pump attached to the drums was not used in making the sales. The same material could be drawn from a drum by some device which did not include measuring equipment and no tax or fee for sealing the measuring pump could be collected.

SHREVEPORT REFINERS AWAIT RATE OUTCOME

SHREVEPORT, La., Dec. 10.—Decision of the Interstate Commerce Commission on the complaint filed some time ago by the Stoll Oil Refiining Co. of Louisville, Ky., involving rates on refined oil products from this territory leaves local refiners still very much in the air as to the probable outcome of the case involving rates on petroleum and its products from all southwestern territory to points east of the Mississippi.

The commission's decision, rendered December 15, dismissed the Stoll company's complaint, which was an application for a reduction in rates on fuel oil and gas oil from Shreveport and south Arkansas points to Louisville to the New Albany combination, a reduction, if effected, of about 6 cents per 100 pounds. New Albany is just across the river from Louisville and enjoys a combination rate of 35 cents while the rate to Louisville is a through rate of 41 cents.

What effect, if any, this decision will have in the larger and more comprehensive case is interesting the refiners and their traffic managers. The general case, Docket 18,458, as it is known, has progressed to the point where all the examinations have been concluded and briefs are being filed. A preliminary report is anticipated some time early next summer with final decision possibly next fall. It will affect all refiners in southwestern territory shipping to points east of the Mississippi and has been before the commission for over a year.

UNIFORM FIRE ORDINANCE NEED OF MARKET BRANCH

An effort should be made by those engaged in the marketing of petroleum products to secure uniform fire ordinances in cities and towns according to Frank A. Epps of the Tide Water Oil Co. who spoke at the Chicago meeting of the American Petroleum Institute on the subject of "Fire Laws for the Oil Industry." According to Mr. Epps the marketing division of the oil industry is being unjustly imposed upon by fire chiefs and other city officials who adopt arbitrary regulations in regard to how bulk and service stations shall be built to reduce the fire hazard.

Many of these regulations Mr. Epps explained failed to accomplish the purpose for which they were intended while others call for large expenditure on the part of the oil companies when less expensive equipment would accomplish the same purpose.

"The National Fire Protection Association," Mr. Epps said, "has been doing excellent work in standardizing the regulatory measures designed to safeguard the interests of the public. Their national electric code has become a standard instrument in almost every city of the United States. Their national building code has been copied very widely. A year and a half ago, this organization passed a model ordinance designed to cover the safe construction and operation for plants within municipal limits handling inflammable liquids. The oil industry participated in the preparation of this ordinance. Most of you are familiar with the difficulties encountered in obtaining agreement regarding certain of the clauses contained in this model ordinance. In general, it may be said, however, that the oil industry has concurred with the provisions specified therein, although the sections on tank spacing and dikes were compromised. While the industry does not subscribe entirely to the requirements of these compromised sections I believe we are generally willing to accept the dictum of this model ordinance where adopted."

WESTERN REFINERS' ANNUAL MEETING TO BE HELD MARCH 6

The annual meeting of the Western Petroleum Refiners Association will be held March 6, according to an announcement by Howard Bennette, managing director of the association. Decision to hold the meeting at that time was made at a meeting of the board of directors during the past week.

The membership of the association is now being pol'ed to determine where the meeting will be held. The details of the program will also be announced later. Last year the association decided to hold the usual two or three-day convention and confine the annual meeting to a one-day session for company executives.

WEST TEXAS CRUDES BIG FACTOR IN 1928

By N. O. Fanning

New York Bureau, The Oil and Gas Journal

NEW YORK, Dec. 10.—Two prominent oil production men familiar with conditions in West Texas agree that underground conditions there are somewhat like those in the Golden Lane of Mexico. Oil is coming from fissures in black limestone. Samples of the limestone indicate that there is practically no oil permeation. This may indicate, in their opinion, that the West Texas fields will drop off fast when they have passed their peak production, in contrast to Seminole, which is holding up much better than had been expected.

As West Texas production is restricted only by tankage and pipe line capacity, it is considered probable that this oil will be more of a factor in the market during the next year than it has so far. There is every indication of immediate expanding of pipe line capacity, and drilling has shown no signs of abatement.

The decision of the Humble Oil & Refining Co. to construct an 8,000-bbl. skimming plant at Ingleside, work on which has already started, indicates that West Texas oil will go into consumption at once with leading oil companies storing as little of it as possible because of the sulphur content. This means that the markets will have to absorb more gasoline and fuel oil from that source than ever during the next year, a possibility that should receive serious consideration in estimates of the oil outlook for 1928.

West Texas crude oil does not have the wax content found in Panhandle crude and therefore can be handled in the winter time more easily. The Humble pipe line to Ingleside goes through a part of Texas having a relatively warm year-around climate, and can operate continuously throughout the winter.

In the opinion of leading oil men here, West Texas will be the big factor in 1928.

APPOINT JACKSON MANAGER

V. E. Jackson has been appointed manager of the Dallas office of the Atlas Petroleum Co. Mr. Jackson was formerly manager of refinery sales for the Iowa Park Refining Co., at Wichita Falls, Tex. Previously he was sales manager for the Texhoma Oil & Refining Co., which is now owned by the Continental Oil Co. Mr. Jackson's offices will be in the Magnolia Building at Dallas, Tex.

Brief Items for Plant Operators

Realization Method In Determining Cost Of Refining Crudes

By M. A. Chambers*
Panhandle Refining Co.

It is quite likely that every company engaged in the refining branch of the petroleum industry maintains some sort of a system for ascertaining the cost of each product for inventory purposes, but there is a lack of uniformity in the methods of arriving at such costs.

The principal problem, upon which there appears to be the widest difference of opinion, is the distribution of the cost of crude oil to the various products, and this constitutes the major portion of the cost of finished products at the refinery.

An equitable, feasible and readily working basis applicable to a majority of the refineries regardless of type or size, from which the use of arbitraries is eliminated and which will expedite the calculation of production costs must be found and the realization or product value method appears to meet these requirements—by its use each product is charged with that percentage of the cost of crude oil that the ratio of the quantity and market value of such commodity bears to the aggregate amount realizable from the sale of all the products obtained from it.

This method of distributing the cost has the advantage of determining a cost for every product that will allow a profit for each, providing market conditions are such that a profit can be made from the refining of the whole barrel. A cost higher than the market value of some commodity might result where a violent decline in the market price occurs, but this would soon adjust itself by the continued use of this method. It does not, however, arrive at a cost of any product which is entirely disproportionate to its selling value, nor does it attempt to allocate to a so-called main product the entire cost .By this method each product is treated with equal importance.

As the cost distributed to each product is dependent to some extent upon the values of the others, a revision of the inventory value to market price of any one product, should not be made without a revision of the others. The adjustment if deemed desirable for conservative reasons should be made for all products.

Realization by Classes

To determine the realization by individual classes of products for the application of this method, the realized market value of the various products at the refinery where produced as shown by sales and transfers, may be used without deducting manufacturing or other costs. This will greatly simplify the determination of the factors to be used in distributing the cost of raw material.

To attempt to deduct manufacturing, transportation and selling costs from the market value of the various products raises the question of the method to be used in determining such market values and costs. In computing the market values of unfinished products there should be deducted from the market value of the constituent products the cost of finishing.

In ascertaining market values the question arises as to the period to be used. From a test of various periods it has been found that the use of the average realized market prices for the current month produces costs which bear a nearer relation to the marketable value of each product than that produced by using either 6 or 12 months for an average.

It has been suggested that manufacturing costs can be directly applied to individual products but the basis for the distribution has not been outlined. It appears that the same principle would be adhered to if the cost of raw material and such manufacturing costs as are common to the various products were divided upon the same basis. At least for those who wish to simplify their cost accounting the realization method may well be applied to such costs. The cost of such further processing and treating being added to the cost previously ascertained of such products as pass through the particular process.

If the manufacturing cost is allocated to each product for each process upon quantity only, without regard to the value, the quantity of overhead products only should properly be charged and no charge made to the residuum. There would, therefore, be little cost allocated to the residuum other than the cost of raw material. This method is likely to produce costs disproportionate to the market value. This refers particularly to the large number of refineries which do not completely refine but from which a considerable portion of the production is disposed of as fuel oil.

Advantages of Method

A somewhat detailed explanation of the application of the realization or product value method to the determination of product costs was ably and logically presented to the American Petroleum Institute committee on uniform accounting at the last annual meeting, and no attempt is, therefore, made to repeat it. It is the purpose to endorse and recommend it for further consideration from the viewpoint of the small refiner. The suggestion is made, however, that for those who find it more simple, the realization value be found by using the average refinery sales prices compiled for the current month, eliminating long-time contract sales, and that such common manufacturing costs as apply to various products be divided upon the same basis as the cost of raw material.

A question might be raised as to the soundness of any theory of distributing costs dependent upon selling prices since all that is necessary to increase or decrease the cost is to change the selling price, whereas in reality the costs of raw material and manufacturing remain the same. This objection would have weight

(Continued on Page 150)

*American Petroleum Institute, Chicago.

HUMBLE STARTS WORK ON NEW INGLESIDE REFINERY

HOUSTON, Tex., Dec. 13.—Construction work on the new refinery of the Humble Oil & Refining Co., at Ingleside, near Corpus Christi, which was announced last week by Humble officials, has already started. E. A. Bynum, general superintendent and Ben S. Love are in charge of the construction. It is expected that the plant will be in operation by early spring.

The refinery which will consist of a topping plant to start with, is to be practically a duplicate of the plant which the Humble company is building near San Antonio, Tex. It is located on a 40-acre site. The distillation equipment consists of three 12 by 30 foot shell stills with bubble towers designed by the company engineers. The plant will be operated primarily to secure a fuel oil for ships. It is to be operated exclusively on crude oil obtained from West Texas fields. The daily capacity will be between 8,000 and 10,000 bbls. daily.

CHANGE MONTHLY MEETINGS

The monthly meetings of the California Natural Gasoline Association in the future will be held the second Thursday of each month instead of the third Thursday according to an announcement by I. B. Funk, chairman of the publication committee. It is also announced that Mr. Funk has resigned as vice president of the association due to business reasons.

The California association which is only a little over a year old has had a remarkable growth. It now has over 400 members.

TRANSFER OF TORONTO OIL FIRM ANNOUNCED

CHATHAM, Ontario, Dec. 10.—An important deal in the Canadian oil refining and distributing industry was announced this week, in the purchase by Nesbitt, Thompson & Co. of Toronto of the common stock of McColl Brothers, Ltd., of Toronto. The purchase price is $65 a share, making a value for the 150,000 shares of $9,750,000. Preferred stock, amounting to $1,000,000, was called on September 1, the preferred being converted into common on the basis of three shares of common for one preferred. J. W. McColl, president of McColl Brothers, will retire from active participation, but may later, if his health permits, rejoin the new company.

McColl Brothers, Ltd., was incorporated December 12, 1918, prior to which time it was a private partnership. The business has been established more than 50 years. The company has facilities in Canada for coast-to-coast distribution of its products, maintaining 21 branches in eight provinces; and in addition owns a modern refinery situated on Toronto Harbor, with rail and water facilities. The properties also include a modern oil tanker, tank cars, tank trucks and a number of service stations. The company also controls through ownership of all the capital stock, McColl Brothers, Inc., of Buffalo, N. Y., which owns land and oil tanks in that city. Originally, McColl Brothers specialized in industrial oils, but recently they entered into the manufacture of Red Indian motor oils and Marathon Hitest gasoline, distributing by tank trucks to retail dealers.

It is understood that McColl Brothers will be merged in the Frontenac Oil Co., recently reorganized by Nesbitt, Thompson & Co. This company was formerly the Three Nations Oil Refining Co. and was organized in Montreal to use the Ramage process. It owns the rights for Canada for the use of the Gyro vapor phase process for the manufacture of Cyclo gasoline. The McColl organization will provide coast-to-coast distribution for these Frontenac products. It is reported that the reorganization will take the form of a holding company controlling both the McColl and Frontenac companies.

AMONG THE TECHNICAL MEN

One of the more recent changes made in the Skelly Oil Co. organization, brought about through the expansion of that company's facilities in the Panhandle of Texas, was the appointment of R. L. Huntington as superintendent of the company's gasoline plants in that territory. His earlier training included four years work in chemistry at the University of Oklahoma, graduating in that course in 1917.

R. L. Huntington

After graduation, he enlisted with the Twenty-sixth Engineers of the United States Army and served 14 months overseas. The latter part of this time was spent in research work for the chemical warfare division in the Puteaux Laboratories near Paris.

Following the war he was employed by The Texas Company as chemist in its West Tulsa, Okla., refinery. In the spring of 1920, he took up graduate work at the University of Illinois but in June of that same year joined the Skelly Oil Co., as a chemist. His next work was that of gas tester for the gasoline division and the experience gained here led to his being made superintendent of their Slick, Okla., plant.

A little more than a year later he was transferred to the Lyman, Okla., plant, in the same capacity. During October of last year, Mr. Huntington was placed in charge of the six plants in the Panhandle, four of these operating by charcoal absorption and two by oil absorption. All of these are located in or near Wittenburg, Tex., and Mr. Huntington resides there.

TO PRESENT PAPERS ON MOTOR FUELS AND OILS

Several papers of interest to those connected with the refining and marketing of petroleum products will be presented at the annual meeting of the Society of Automotive Engineers to be held in Detroit, January 24 to 27, inclusive.

For the research session on January 26, which is to extend over the forenoon and afternoon, arrangements have been made for the following addresses: "Comparison of Methods of Measuring Knock Characteristics of Fuels," by Dr. Graham Edgar; "A Detonation Survey," by H. K. Cummings; "Some Factors in Engine Acceleration," by R. Best and J. O. Eisinger; "Oil Viscosity at Low Temperature and Its Relation to Ease of Starting," by Dr. R. E. Wilson; and "Interpretation of the Distillation Test of the American Society for Testing Materials," by O. C. Bridgeman and Dr. C. S. Cragoe.

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

GASOLINE AND NAPHTHA

	Dec. 13		Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—						
50-52 450 endpoint	.05⅝		.05¾		.05¾	
56-58 450 endpoint	.05⅝		.05¾		.05¾	
58-60 450 endpoint	.05⅝	.05¾	.05¾		.05¾	
58-60 437 endpoint (U. S. Motor)	.05⅞	.06⅛	.06	.06⅛	.06	.06⅛
60-62 400 endpoint	.06⅜	.06½	.06½		.06½	.06⅝
64-66 375 endpoint	.06¾		.06¾		.06¾	.07
68-70 360 endpoint	.07⅛		.07⅛	.07¼	.07⅛	.07¼
64-66 437 endpoint (blend)	.06		.06	.06¼	.06	.06¼
KANSAS—						
58-60 437 endpoint (U. S. Motor)	.06⅛	.06⅜	.06¼	.06⅜	.06¼	.06⅜
NORTH TEXAS—						
56-58 450 endpoint	.05⅝		.05¾		.05¾	
58-60 450 endpoint	.05⅝		.05¾		.05¾	.05⅞
58-60 437 endpoint (U. S. Motor)	.05⅞	.06⅛	.06	.06⅛	.06	.06⅛
60-62 400 endpoint	.06⅜	.06½	.06½		.06½	
64-66 390 endpoint	.06½	.06⅝	.06⅝		.06⅝	
64-66 375 endpoint	.06¾		.06¾	.07	.06¾	.07
68-70 360 endpoint	.07		.07		.07	
64-66 437 endpoint (blend)	.06⅛		.06¼		.06¼	
NORTH LOUISIANA—						
58-60 437 endpoint (U. S. Motor)	.06½		.06½		.06½	
ARKANSAS—						
58-60 437 endpoint (U. S. Motor)	.06½		.06½		.06½	
PENNSYLVANIA—						
52-54 Naphtha	.07¾	.08	.07¾	.08	.07¾	.08
54-56 Naphtha	.07¾	.08	.07¾	.08	.07¾	.08
58-60 Gasoline	.08	.08¼	.08	.08¼	.08	.08¼
60 Gasoline	.08¾	.09	.08¾	.09	.08¾	.09
62 Gasoline	.09⅛	.09¼	.09⅛	.09¼	.09⅛	.09¼
64 Gasoline	.09¼	.09½	.09¼	.09½	.09¼	.09½
CALIFORNIA—						
58-60 437 endpoint (U. S. Motor) domestic	.10	.10¼	.08½	.09	.08	.08½
CHICAGO DISTRICT (Based on Group 3)—						
50-52 450 endpoint (Naphtha)	.05⅝	.05⅞	.05¾	.05⅞	.05⅞	.06
56-58 450 endpoint	.05¾	.05⅞	.05¾		.05⅞	
58-60 437 endpoint (U. S. Motor)	.05¾	.06	.06	.06¼	.06	.06¼
60-62 400 endpoint	.06½		.06½	.06⅝	.06½	.06⅝
64-66 375 endpoint	.06¾	.07	.06⅞	.07	.06⅞	.07
68-70 360 endpoint	.07¼	.07⅜	.07¼	.07⅜	.07¼	.07⅜
64-66 437 endpoint (blend)	.06	.06⅛	.06⅛	.06¼	.06⅛	.06¼

NATURAL GASOLINE

	Dec. 13		Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05⅜		.05½	.05⅝	.05¾	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05⅛		.05⅜	.05½	.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04¼		.04⅜	.05	.05¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¼		.04⅜		.05¼	
Grade C, 80-92, 375 e.p., rec. 78%	.04		.04½		.05	
NORTH TEXAS—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05⅜		.05½		.05¾	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05	.05⅛	.05⅜	.05½	.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04¼		.04⅜	.05	.05¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¼		.04⅜	.05	.05¼	
Grade C, 80-92, 375 e.p., rec. 78%	.04		.04½		.05	
NORTH LOUISIANA—						
Grade AA, 80-87, 375 e.p., rec. 90%	.05½		.05¾		.06	
Grade BB, 84-92, 375 e.p., rec. 85%	.05¼		.05½		.05⅞	
Grade C, 80-92, 375 e.p., rec. 78%	.05		.05¼		.05½	
CALIFORNIA—						
75-85, 375, 390 endpoint	.08½	.09	.08½	.09	.09	.09½
CHICAGO DISTRICT (Based on Group 3)—						
Grade A, 72-79.9, 375 e.p., rec. 90%	.05¼	.05⅜	.05½		.05¾	
Grade AA, 80-87.9, 375 e.p., rec. 90%	.05⅛		.05⅜	.05½	.05½	
Grade B, 76-83.9, 375 e.p., rec. 85%	.04¼		.04⅜	.04⅞	.05¼	
Grade BB, 84-92, 375 e.p., rec. 85%	.04¼		.04¾		.05¼	
Grade C, 80-90, 375 e.p., rec. 78%	.04		.04½		.05	

Note: All natural gasoline, except California, is noncorrosive.

BURNING OIL

	Dec. 13		Dec. 6		Nov. 29	
KANSAS—						
41-43 water white Kerosene	.04⅝	.04¾	.04¾		.04¾	.05
OKLAHOMA (Group 3)—						
41-43 water white Kerosene	.04⅜	.04½	.04⅜	.04⅝	.04½	.04⅝
42-44 water white Kerosene	.05		.05		.05	.05⅛
NORTH LOUISIANA—						
41-43 prime white Kerosene	.05	.05¼	.05	.05¼	.05	.05¼
NORTH TEXAS—						
41-43 water white Kerosene	.04⅜	.04½	.04½		.04½	.04⅝
40-42 water white Kerosene	.04¼		.04¼		.04¼	.04½
ARKANSAS—						
41-43 water white Kerosene	.05		.05	.05⅛	.05	.05¼
PENNSYLVANIA—						
43 Kerosene prime white	.06⅛	.06⅜	.06⅜	.06⅝	.06⅜	.06⅝
45 Kerosene water white	.06¼	.06½	.06½	.06¾	.06½	.06¾
46 Kerosene water white	.06½	.06¾	.06¾	.07	.06¾	.07
47 Kerosene water white	.07	.07¼	.07	.07¼	.07	.07¼
300 Mineral Seal	.07¼	.07½	.07¼	.07½	.07¼	.07
CALIFORNIA—						
38-40 water white Kero. (high burning test)	.05½	.06	.05½	.06	.05½	.06
Engine distillate, 43-45, 445 endpoint	.07	.07¾	.07	.07¾	.07	.07¾
Engine distillate, 42-44, 480 endpoint	.06¾	.07	.06¾	.07	.06¾	.07
CHICAGO DISTRICT (Based on Group 3)—						
41-43 water white Kerosene	.04½	.04⅝	.04½	.04⅝	.04½	.04⅝
42-44 water white Kerosene	.05	.05⅛	.05	.05⅛	.04⅞	.05

FUEL OILS

	Dec. 13		Dec. 6		Nov. 29	
KANSAS—						
22-26 Fuel Oil	.80	.85	.80	.85	.80	.85
18-22 Fuel Oil	.80		.80		.80	
32-36 Gas Oil	.02½		.02½		.02½	
38-40 Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	.03⅜
OKLAHOMA (Group 3)—						
Below 18 Fuel Oil	.70	.75	.70	.75	.70	.75
18-22 Fuel Oil	.75	.77½	.75	.77½	.75	.80
22-26 Fuel Oil	.77½	.80	.77½	.80	.80	.82½
24-26 Fuel Oil	.80	.85	.80	.85	.82½	.85
26-30 Fuel Oil	.85	.87½	.85	.87½	.87½	
28-30 Fuel Oil	.90	.95	.90	.95	.92½	.95
32-36 Gas Oil (dark)	.02¼	.02⅜	.02¼	.02⅜	.02⅜	.02½
32-36 Gas Oil (straw overhead)	.02⅜	.02½	.02⅜	.02½	.02½	
36-38 Distillate	.03	.03⅛	.03	.03⅛	.03	.03⅛
38-40 Straw Distillate	.03⅛	.03¼	.03⅛	.03¼	.03⅛	.03¼
NORTH TEXAS—						
24-26 Fuel Oil (sellers' cars)	.75	.80	.75	.80	.80	.82½
32-36 Gas Oil (straw)	.02¼		.02¼		.02¼	.02½
38-40 Straw Distillate	.03		.03		.03	.03⅛
NORTH LOUISIANA—						
18-20 Fuel Oil	1.00		1.00		1.00	
32-36 Gas Oil	.03	.03¼	.03	.03¼	.03	.03¼
ARKANSAS—						
36-38 Distillate	.03¼	.03½	.03¼	.03½	.03¼	.03½
32-36 Gas Oil (straw)	.03	.03¼	.03	.03¼	.03	.03¼
16-20 Refinery Fuel Oil	.95	1.00	.95	1.00	.95	1.00
GULF COAST (South Texas)—						
Gas Oil	.03⅞	.04	.03⅞	.04	.03⅞	.04
Fuel Oil	1.25	1.30	1.25	1.30	1.25	1.30
PENNSYLVANIA—						
30-34 Fuel Oil	.04¼	.04⅝	.04¼	.04⅝	.04¼	.04½
36-40 Fuel Oil	.04⅜	.04⅝	.04⅜	.04⅝	.04⅜	.04⅝
CALIFORNIA—						
33-36 Distillate	.03½	.03¾	.03½	.03¾	.03½	.03⅞
27-32 Distillate	.02¼	.03	.02¾	.03¼	.02¾	.03¼
*15-20 Fuel Oil, Bunkers (at tide water)	1.00		1.00		1.00	
15-20 Fuel Oil (cargo lots)	.90		.90		.90	
27 plus Diesel	1.15	1.19	1.15	1.19	1.15	1.19
CHICAGO DISTRICT (Based on Group 3)—						
24-26 Fuel Oil (sellers' cars) Group 3	.80	.82½	.80	.82½	.80	.82½
22-26 Fuel Oil (sellers' cars) Group 3	.77½	.80	.77½	.80	.77½	.80
18-22 (Group 3)	.75	.77½	.75	.77½	.75	.77½
16-20 Smackover	1.00		1.00		.90	.95
32-36 Gas Oil (zero)	.02¾	.02⅞	.02⅝	.03⅛	.02⅝	.03
32-36 Gas Oil (industrial)	.02½		.02⅝	.03	.02⅜	.02⅝
36-38 Distillate	.03⅛		.03⅛	.03¼	.03	.03¼
38-40 Straw Distillate	.03¼	.03⅜	.03¼	.03⅜	.03¼	.03⅜

*Bunkers.

LUBRICATING OIL AND WAX

	Dec. 13		Dec. 6		Nov. 29	
OKLAHOMA (Group 3)—						
100 vis., 2 color, 20-25 cold test	.06¼	.06½	.06¼	.06½	.06¼	.06½
100 vis., 3 color, 20-25 cold test	.06	.06¼	.06	.06¼	.06	.06¼
150 vis., 3 color, 20-25 cold test	.08¼	.08½	.08¼	.08½	.08¼	.08½
150 vis., 4 color, 20-25 cold test	.08	.08¼	.08	.08¼	.08	.08¼
180 vis., 3 color, 23-28 cold test	.09⅜	.10	.09⅜	.10	.09⅜	.10
180 vis., 4 color, 23-28 cold test	.09¼	.09⅜	.09¼	.09⅜	.09¼	.09⅜
180 vis., 5 color, 23-28 cold test	.09⅛	.09½	.09⅛	.09½	.09⅛	.09½
200 vis., 3 color, 23-28 cold test	.09½	.10⅛	.09½	.10⅛	.09½	.10⅛
200 vis., 4 color, 23-28 cold test	.09⅜	.10¼	.09⅜	.10¼	.09⅜	.10⅞
200 vis., 5 color, 23-28 cold test	.09¼	.10	.09¼	.10	.09¼	.10
240 vis., 3 color, 25-30 cold test	.13¾	.14	.13¾	.14	.13¾	.14
240 vis., 4 color, 25-30 cold test	.13¼	.13½	.13¼	.13½	.13¼	.13½
240 vis., 5 color, 25-30 cold test	.12¼	.12½	.12¼	.12½	.12¼	.12½
280 vis., 3 color, 25-30 cold test	.15½	.16	.15½	.16	.15½	.16
280 vis., 4 color, 25-30 cold test	.15	.15½	.15	.15½	.15	.15½
280 vis., 5 color, 25-30 cold test	.14	.14½	.14	.14½	.14	.14½
Cylinder Stocks:						
600, steam refined, light green	.08	.09½	.08	.09½	.08	.09½
600, steam refined, dark green	.07	.07½	.07	.07½	.07	.07½
190-200 vis. @ 210 Bright Stock	.30	.32	.30	.32	.30	.32
150-160 vis. @ 210 Bright Stock	.24	.25	.24	.25	.24	.25
Waxes:						
124-126 White Crude Scale Wax	.02½	.02⅝	.02½	.02⅝	.02⅝	
PENNSYLVANIA—						
34 Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
34 Sundebloom	.07¾	.08	.07¾	.08	.07¾	.08
36 Miners' Neutral	.07½	.07¾	.07½	.07¾	.07½	.07¾
150, 3 color	.26½	.27	.26½	.27	.26½	.27
180, 3 color	.31	.31½	.31	.31½	.31	.31½
200, 3 color	.32	.32½	.32	.32½	.32	.32½
220, 3 color	.34½	.35	.34½	.35	.34½	.35
600, steam refined	.09¼	.09¾	.09¼	.09¾	.09¼	.09¾
635, steam refined	.10½	.11	.10½	.11	.10½	.11
650, steam refined	.11¼	.11¾	.11¼	.11¾	.11¼	.11¾
600, Pennsylvania flash	.15	.16	.15	.16	.15	.16
*550, E filtered	.15¾	.16	.15¾	.16	.15¾	.16
*600, E filtered	.16½	.17	.17	.17½	.17	.17½
600, E filtered	.15½	.16	.15½	.16	.15½	.16
600, D filtered	.24½	.25	.24½	.25	.24½	.25
550, E filtered	.15½	.16	.15½	.16	.15½	.16
550, D filtered	.21½	.22	.21½	.22	.21½	.22
Pennsylvania Bright Stock	.28	.28½	.28	.29	.28	.29
†122-124 White Crude Scale Wax	.02⅞	.03	.02¾	.02⅞	.02⅞	.03
124-126 White Crude Scale Wax	.02⅞	.03	.02⅞	.03	.03	

*At Warren, Pa. †At New York City.

GULF COAST (South Texas)—						
No. 2 color, 100 vis., pale oil	.06¼	.07	.06¼	.07	.06¼	.07
No. 3 color, 200 vis., pale oil	.08¾	.09	.08½	.09½	.08½	.09½
No. 3 color, 300 vis., pale oil	.10	.10½	.10	.10½	.09½	.10½
No. 3½ color, 500 vis., pale oil	.11½	.12	.11½	.12	.11½	.12
No. 4 color, 750 vis., pale oil	.14	.14½	.14½	.15	.14	.15
No. 5 to 6 color, 200 vis., red oil	.07¼	.08	.07½	.08	.07½	.08
No. 5 to 6 color, 300 vis., red oil	.08½	.09	.08½	.09	.08½	.09
No. 5 to 6 color, 500 vis., red oil	.09½	.10½	.09½	.10½	.09½	.10½
No. 5 to 6 color, 750 vis., red oil	.12	.12½	.12½	.13	.12½	.13
No. 2 color, 200 vis., pale filtered	.11½	.12½	.11½	.13	.11½	.13
No. 2 color, 300 vis., pale filtered	.13	.13½	.13	.13½	.12	.13
No. 2½ color, 500 vis., pale filtered	.14	.14½	.13¼	.13½	.12¼	.13
No. 2½ color, 750 vis., pale filtered	.17½	.19	.17½	.19	.17	.18
CALIFORNIA—						
130 vis., 2½-3 color	.09	.10	.09	.10	.09	.10

REFINERY AND CRUDE PRICES

Quotations on Principal Refined Products and Crude Petroleum Markets in All the American Oil Fields

200 vis.,	2½-3	color	.10	.10½	.10	.10½	.10	.10½
300 vis.,	3 -3½	color	.10½	.11	.10½	.11	.10½	.11
350 vis.,	3½-4	color	.11	.12	.11	.12	.11	.12
400 vis.,	3½-4	color	.13	.14	.13	.14	.12	.14
Red Neutral:								
200 vis.,	4½-5	color	.08½	.09	.08½	.09	.08½	.09
300 vis.,	5 -6	color	.09	.09½	.09	.09½	.09	.09½
400 vis.,	5 -6	color	.11	.11½	.11	.11½	.11	.11½
500 vis.,	4½-5	color	.11¼	.12	.11¼	.12	.11¼	.12
500 vis.,	5-6½	color	.11	.11½	.11	.11½	.11	.11½
600 vis.,	6 plus	color	.12	.12½	.12	.12½	.12	.12½

Note: Bright stocks are not manufactured commercially on the Pacific Coast.

NEW YORK (BAYONNE) REFINERY PRICES

	Dec. 13	Dec. 6	Nov. 29
Gasoline U. S. Motor, 58-60 437	.08¼	.08¼	.08¼
Kerosene, water white, 41-43	.07½	.07½	.07½
*Fuel Oil, bunker "C," 14-16, per bbl.	1.35	1.35	1.40
*Fuel Oil, Diesel, 28-30, per bbl.	2.10	2.10	2.10
Gas Oil, 28 plus	.05½	.05½	.05½
25 pale Paraffin Oil	.12	.12	.12
28 pale Paraffin Oil	.07	.07¼	.07¼
28 red Paraffin Oil	.11½	.11½	.11½
250 red Paraffin Oil	.10½	.10½	.10½
225 red Paraffin Oil	.09½	.10	.10
200 red Paraffin Oil	.09	.09½	.09½
Refined Wax:			
120-122 a.m.p., per lb.	.03⅞	.03⅞	.03⅞
125-127 a.m.p., per lb.	.03⅞	.04	.04
130-132 a.m.p., per lb.	.04½	.04¾	.04¾
135-137 a.m.p., per lb.	.05¼	.05½	.05½
Petrolatum, in bbls., carload lots, per lb.:			
Dark green	.01⅞	.01⅞	.01⅞
Amber	.03⅜	.03⅜	.03⅜
Extra amber	.03¾	.03¾	.03¾
Cream	.06½	.06¼	.06¼
Lily white	.08½	.09	.09

*Lighterage 6.5c a barrel extra.

NEW YORK (BAYONNE) EXPORT PRICES

	Dec. 13	Dec. 6	Nov. 29
Gasoline, U. S. Motor, 58-60 437, in cases	.2390	.2390	.2390
Kerosene, standard white, in cases	.1715	.1715	.1715
Kerosene, water white, in cases	.1815	.1815	.1815
600 steam refined cylinder stock, in bbls.	.17	.17	.17
635 steam refined	.19	.19	.19
650 steam refined	.20	.20	.20
600 Pennsylvania flash	.23	.23	.23
630 Pennsylvania flash	.35	.35	.35
600 Warren E	.25	.25	.25
600 Oil City E	.24	.24	.24
Light 135 Bright Stock	.40	.40	.40
Dark 135 Bright Stock	.38	.38	.38

LOS ANGELES EXPORT PRICES

	Dec. 13		Dec. 6		Nov. 29	
Kerosene, water white	.04½	.04¾	.04½	.04¾	.04½	.04¾
U. S. Motor Gasoline, 53-55 437 endpoint	.06	.06⅛	.06	.06⅛	.06	.06⅛

CALIFORNIA CRUDE PRICES
Standard Oil Co.-Union Oil Co. (Effective April 1, 1927)*

Gravity—	1 Fullerton Seal Beach Long Beach Huntington Beach Richfield Rosecrans-Dom'guez Torrance-Inglewood	2 Whittier La Habra Montebello	Kern River Newhall-McKittrick Midway-Sunset Elk Hills Lost Hills Belridge Buena Vista Hills	4 Coyote	5 Santa Fe Springs	6 Coalinga	7 Wheeler Ridge	8 Santa Maria Ventura Orcutt Salt Lake
14°	.85	.85	.75	.85	....	.75	.75	.85
15°	.85	.85	.75	.85	....	.75	.75	.85
16°	.85	.85	.75	.85	....	.75	.75	.85
17°	.85	.85	.75	.85	....	.75	.75	.85
18°	.85	.85	.75	.85	....	.75	.75	.85
19°	.85	.85	.75	.85	....	.76	.76	.85
20°	.85	.85	.77	.85	....	.76	.76	.85
21°	.86	.85	.79	.86	.85	.77	.77	.85
22°	.87	.85	.81	.87	.85	.78	.78	.85
23°	.88	.85	.83	.88	.85	.79	.79	.85
24°	.89	.85	.85	.89	.85	.80	.80	.85
25°	.90	.86	.87	.90	.86	.81	.81	.86
26°	.92	.87	.89	.91	.87	.83	.82	.87
27°	.94	.88	.91	.92	.88	.85	.83	.88
28°	.96	.89	.93	.93	.89	.87	....	.89
29°	.98	.90	.96	.94	.91	.89	....	.91
30°	1.00	.91	.99	.95	.93	.91	....	.93
31°	1.03	....	1.02	....	.95	.93	....	.95
32°	1.06	....	1.05	....	.97	.95	....	.97
33°	1.09	....	1.08	....	.99	.97	....	.99
34°	1.12	....	1.11	....	1.01	.99	....	1.01
35°	1.15	....	....	....	1.03	1.01	....	1.03
36°	1.18	....	....	....	1.06	....	....	1.06
37°	1.21	....	....	....	1.09	....	....	1.09
38°	1.24	....	....	....	1.12	....	....	1.12
39°	1.27	....	....	....	1.15	....	....	1.15
40°	1.30	....	....	....	....	....	....	....
41°	1.33	....	....	....	....	....	....	....
42°	1.36	....	....	....	....	....	....	....

*Column 1—Long Beach, Seal Beach and Huntington Beach crudes, 14 to 32 degrees, inclusive; Richfield and Fullerton, 14 to 30 degrees; Torrance and Inglewood, 14 to 28 degrees; Dominguez, 24 to 42 degrees. Rosecrans crude ranges from 14 to 42 degrees, but only Union Oil Co. posts below 24 degrees.

Column 2—Whittier crude, 14 to 22 degrees; Montebello, 14 to 30 degrees.

Column 3—Kern River, Newhall and McKittrick, 14 to 19 degrees; Midway-Sunset, Buena Vista and Elk Hills, 14 to 32 degrees; Lost Hills and Belridge, 14 to 34 degrees.

Column 5—Salt Lake, 14 to 19 degrees, inclusive; Santa Maria, 14 to 30 degrees; Ventura and Orcutt, 14 to 39 degrees. Posted only by Union Oil Co.

CRUDE OIL GRAVITY PRICE TABLE

Gravity—	Okla., Kans., N. C. Tex., La.-Ark.	§§Smackover, Ark.	§Stephens, Ark.	Gray County (Texas Panhandle)	Crane, Upton, Pecos, Crockett counties (West Texas)	§Salt Creek, Wyo.	Grade B & Light Crude (G. Coast)	§Somerset (South Central Texas)
Below 24	....	.85	....	....	....	....	....	....
24 and above	....	1.00	....	....	....	....	....	....
Below 25	....	....	....	....	....	....	1.15	....
25 to 25.9	....	....	....	....	....	....	1.17	....
Below 26	....	....	....	....	.60	....	....	....
26 to 26.9	....	....	....	....	.60	....	1.19	....
27 to 27.9	....	....	....	....	.60	....	1.21	....
Below 28	(*)	....	1.00	....	....	....	....	....
28 to 28.9	1.12	....	1.02	.80	.60	....	1.23	....
29 to 29.9	1.14	....	1.04	.82	.60	1.14	1.25	....
30 to 30.9	1.16	....	1.06	.84	.60	1.16	1.27	....
31 to 31.9	1.18	....	1.08	.86	.60	1.18	1.29	....
32 to 32.9	1.20	....	1.10	.88	.60	1.20	1.31	1.05
33 to 33.9	1.22	....	....	.90	.60	1.22	1.33	1.07
34 to 34.9	1.24	....	....	.92	.60	1.24	1.35	1.09
35 to 35.9	1.26	....	....	.94	.60	1.26	1.37	1.11
36 to 36.9	1.28	....	....	.96	.60	1.28	....	1.13
37 to 37.9	1.30	....	....	.98	....	1.30	....	1.15
38 to 38.9	1.32	....	....	1.00	....	....	....	1.17
39 to 39.9	1.34	....	....	1.02	....	....	....	....
40 to 40.9	1.36	....	....	1.04	....	....	....	....
41 to 41.9	1.38	....	....	1.06	....	....	....	....
42 to 42.9	1.40	....	....	1.08	....	....	....	....
43 to 43.9	1.42	....	....	1.10	....	....	....	....
44 to 44.9	1.44	....	....	1.12	....	....	....	....
45 to 45.9	1.46	....	....	....	....	....	....	....
46 to 46.9	1.48	....	....	....	....	....	....	....
47 to 47.9	1.50	....	....	....	....	....	....	....
48 to 48.9	1.52	....	....	....	....	....	....	....
49 to 49.9	1.54	....	....	....	....	....	....	....
50 to 50.9	1.56	....	....	....	....	....	....	....
51 to 51.9	1.58	....	....	....	....	....	....	....
52 and above	1.60	....	....	....	....	....	....	....

Column 1—Magnolia Petroleum Co. posted new schedule September 14, making price below 30 gravity $1.05 per barrel, with 2 cents increase per degree higher in gravity, taking 30-30.9 gravity at $1.16 as basis, with a top price of $1.60 for 52 and above.

Oklahoma: Prairie Oil & Gas Co., Sinclair Oil & Gas Co., Gypsy Oil Co., March 12; Carter Oil Co., The Texas Company, March 14.

North Central Texas—[Including Ranger, Mexia, Powell, Richland, Wortham, Lytton Springs (Southwest Texas), Iatan and Panola (Magnolia only), Currie, Nocona, Moran and Corsicana light]; Texas, Prairie, Sinclair and Gulf, March 12; The Texas Company, Humble Oil & Refining Co., March 14.

Kansas—Prairie, Sinclair, March 12; Carter, Texas, March 14.

Arkansas and North Louisiana—[Caddo, Bull Bayou, Crichton, De Soto, Haynesville, Homer and El Dorado only]; Standard Oil Co. of Louisiana, March 14; The Texas Company, March 14; Magnolia Petroleum Co., Pine Island, Haynesville and Bull Bayou, El Dorado, Gulf Pipe Line Co., March 14.

Column 2—November 19, Louisiana Oil Refining Co. On November 21, Standard Oil Co. of Louisiana, Magnolia Petroleum Co., Gulf Refining Co., and Atlantic Producing Co.

Column 3—Atlantic Oil Producing Co., March 14.

Column 4—Humble Oil & Refining Co. and Gulf Pipe Line Co., March 14. On August 23 Magnolia Petroleum Co. posted flat 75 cents.

Column 5—Humble Oil & Refining Co., August 23; Kay County Gas Co., Magnolia Petroleum Co., and Gulf Pipe Line Co., August 24.

Column 6—Midwest Refining Co., March 12. All crude over 37 gravity, $1.30 per barrel.

Column 7—Humble Oil & Refining Co. and other major buyers (schedule ends "35 and above"), March 14, with exception of Magnolia Petroleum Co., which stops at 31 degrees gravity. Sun Pipe Line Co. posts 2 cents differential for each degree above 35 gravity and $1.47 for 40 gravity and above.

Column 8—Grayburg Pipe Line Co. and Pioneer Oil & Refining Co., April 7.

*Prices for crude below 28 gravity; Oklahoma, Kansas and Texas, Magnolia Petroleum Co., $1.10, March 12; Arkansas, North Louisiana, March 14. Other companies, 2 cents less for each degree, with exception of Humble Oil & Refining Co., which pays 90 cents for crude below 25 degrees gravity, effective November 16.

CRUDE OIL PRICES

OKLAHOMA, KANSAS, NORTH AND EAST CENTRAL TEXAS

*Corsicana heavy (March 14, 1927)....$1.00
Other fields .....See gravity table

*Posted by Magnolia Petroleum Co.

TEXAS PANHANDLE

*Carson County .....$ .75
*Hutchinson County ..... .75
*Wheeler County ..... .75
Gray County .....See gravity table

*Humble Oil & Refining Co. Magnolia Petroleum Co., Gulf Pipe Line Co., and Kay County Gas Co., August 23.

*Iatan.....Same as North Texas
Crane-Upton-Crockett.....See gravity table
**Glasscock .....$ .80

*Includes Howard County and Westbrook Fields. Kay County Gas Co. pays $1.05 for Howard County crude, effective May 21.
**Magnolia Petroleum Co., Oct. 24.

ARKANSAS-NORTH LOUISIANA

Cotton Valley (Dec. 2) ..... .85
Bellevue (Feb. 24, 1927) 1.25
Urania (Nov. 18, 1927) ..... .75
East El Dorado (Sept. 20) ..... .90
Other fields.....See gravity table

Note—Cotton Valley and Bellevue, Standard Oil Co. of Louisiana, Louisiana Oil Refining Co., Gulf Refining Co. and Magnolia Petroleum Co.; Urania, Louisiana Oil Refining Corp.; East El Dorado Magnolia Petroleum Co., Gulf Refining Co.

GULF COAST

(Goose Creek, Hull, Liberty, West Columbia, Orange, Boling, Sour Lake, Humble, High Island, Pierce Junction and Spindletop.)

‡Grade A (March 14) $1.20
Grade B .....See gravity table
*Jennings, La. (March 14).....$1.05
†Saratoga, Batson, Dayton (March 14, 1927) $1.30
§Markham (March 14) 1.00

*Gulf Pipe Line Co. †Sun Pipe Line Co. ‡Humble Oil & Refining Co. and other major buyers. §The Texas Company.

SOUTH CENTRAL AND SOUTHWESTERN TEXAS

*Luling (May 5) $1.00
†Mirando (March 14) 1.00
Rockdale-Minerva (April 15):
38-38.9 gravity 1.27
39-39.9 gravity 1.29
40 and above 1.31
*Thrall .....
Callihan (May 15) 1.16
Lytton Springs (Lockhart) See gravity table
Somerset .....See gravity table

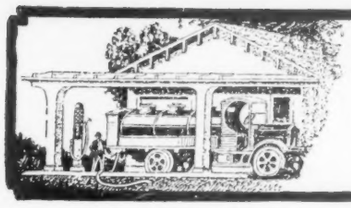
*Posted by Magnolia Petroleum Co. Thrall prices same as North Central Texas less 19½ cents per cwt. freight.
†Magnolia Petroleum Co., Humble Oil & Refining Co., Crown Central Pipe Line Co.

ROCKY MOUNTAIN STATES

Ohio Oil Co.-Midwest Refining Co.
(Effective March 14)

Rock Creek, Wyo. (March 12) $1.25
Salt Creek .....See gravity table
Big Muddy (March 12) $1.25
Mule Creek (May 1) 1.10
Grass Creek, heavy ..... .90
Grass Creek, light 1.33
Elk Basin (March 12) 1.33
Lance Creek (March 12) 1.33
Poison Spider 1.00
Notches ..... .65
Rex Lake (February 22) 1.10
Osage 1.33
Lost Soldier (contract) ..... .95
Greybull-Torchlight 1.33
Hamilton Dome ..... .85
Cat Creek (Mont.) 1.23
Sunburst (Mont.) 1.35

(Continued on Page 144)



TANK WAGON MARKETS

Tank wagon quotations for gasoline and kerosene in United States as furnished by the larger marketing concerns Dec. 13.

ALL TANK WAGON AND SERVICE STATION QUOTATIONS INCLUDE TAXES

STANDARD OIL CO. (INDIANA)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Chicago dist.	16.0	18.0	2.0	12.0
Decatur, Ill.	16.5	12.5	2.0	12.1
E. St. Louis	15.1	17.35	2.0	11.2
Joliet	16.4	18.4	2.0	12.3
Peoria	12.2	12.2	2.0	12.1
Quincy	16.2	18.2	2.0	11.9
Davenport, Ia.	15.5	17.5	3.0	12.3
Des Moines	13.9	15.9	3.0	12.3
Keokuk	17.5	19.5	3.0	12.3
Sioux City	17.1	19.1	3.0	11.9
Duluth, Minn.	15.5	17.5	2.0	12.9
Minneapolis	14.0	14.0	2.0	12.9
Mankato	14.1	16.1	2.0	12.7
LaCross, Wis.	17.2	19.2	2.0	13.0
Milwaukee	16.1	18.1	2.0	11.9
Madison	16.3	18.3	2.0	12.1
Detroit, Mich.	15.8	17.8	3.0	13.7
Grand Rapids	14.0	16.0	3.0	13.6
Saginaw	17.9	19.9	3.0	13.8
Evansville, Ind.	17.0	19.0	3.0	13.0
Ft. Wayne	14.0	14.0	3.0	13.4
Indianapolis	14.2	15.2	3.0	12.2
South Bend	17.4	17.4	3.0	13.4
Fargo, N. D.	15.0	17.0	2.0	14.9
Huron, S. D.	19.5	21.5	4.0	13.9
Sioux Falls	15.0	17.0	4.0	13.4
*K. C., Mo.	14.9	16.9	3.0	10.6
*Springfield	16.8	18.8	3.0	11.5
*St. Louis	15.6	17.9	2.5	11.3
*St. Joseph	14.5	16.5	3.0	11.2
Wichita, Kans.	14.8	16.8	2.0	10.8
Bartlesville, Ok.	15.8	17.8	3.0	10.8

NAPHTHAS

	Tank wagon	Tank car
Oleum spirits	16.0	10.75
V. M. & P. naphtha	18.0	12.75
Cleaner's naphtha	18.0	13.75
Stanisol	19.0	....

Tank wagon prices f.o.b. Chicago; tank car prices f.o.b. Whiting.

STANOLIND FURNACE OIL

Less than 100 gallons	9.0
100 to 349 gallons	8.0
350 or more gallons	7.5

Tank wagon prices of gasoline subject to discount of 1 cent a gallon on dumps of 50 gallons or more throughout territory except Chicago district where discount applies only to dumps of 100 gallons. Kerosene subject to 1 cent discount on dumps of 50 gallons or more.

Outside the Chicago district, the following quantity discount schedule is in effect on monthly tank wagon deliveries of gasoline; 6,000 gallons or more, 1½ cents; 10,000 gallons or more, 2 cents; 15,000 gallons or more, 3 cents. These discounts include the 1 cent allowed on dumps of 50 gallons or more at one delivery.

Within the Chicago district, the following quantity discount schedule is in effect on tank wagon deliveries of gasoline; 750 to 2,000 gallons, one-half cent; 2,000 to 3,000 gallons, three-fourths cent; 3,000 to 6,000 gallons, 1 cent; 6,000 to 10,000 gallons, 1½ cents; 10,000 to 15,000 gallons, 2 cents; 15,000 gallons or more, 3 cents. These discounts are in addition to the special discount of 1 cent on dumps of 100 gallons or more at one delivery.

If the quantity bought during the year is equal to or exceeds 12 times the agreed monthly quantity, the discount is paid or credited on the entire quantity at the close of the term less the monthly payments made during the year.

*State tax 2 cents; remainder city tax.

OHIO

Standard Oil Co. (Ohio)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
All Ohio points	17.0	19.0	3.0	14.5

SOUTHWESTERN DISTRICT

Magnolia Petroleum Co.*

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Dallas, Tex.	14.0	17.0	3.0	11.0
Fort Worth	14.0	16.0	3.0	10.0
Houston	13.0	15.0	3.0	15.0
San Antonio	13.0	15.0	3.0	10.0
El Paso	14.0	15.0	3.0	16.0
Texarkana	15.0	18.0	3.0	12.0
Muskogee, Ok.	15.0	18.0	3.0	10.0
Okla. City	13.0	14.0	3.0	10.0
Tulsa	13.0	14.0	3.0	10.0
Ft. Smith, Ark.	14.0	17.0	3.0	12.0
Little Rock	16.0	16.0	5.0	12.0

*The following is the schedule of discounts on quantity gasoline sales adopted by the Magnolia Petroleum Co. in Oklahoma: Over 750 gallons a month, one-half cent; over 2,000 gallons, three-quarters cent; over 3,000 gallons, 1 cent; over 4,500 gallons, 1¼ cents; over 6,000 gallons, 1½ cents; over 8,000 gallons, 1¾ cents; over 10,000 gallons, 2 cents. If the quantity bought during the year is 12 times the monthly agreed purchases, the discount will be paid or credited on the entire quantity for the year less any monthly purchases.

The schedule on service station deliveries is: Over 200 gallons a month, 1 cent; over 300 gallons a month, 1¼ cents; over 400 gallons, 1½ cents; over 500 gallons a month, 1¾ cents; over 600 gallons, 2 cents. The same rule applies for annual purchases in the tank wagon discounts.

CENTRAL SOUTH DISTRICT

Standard Oil Co. (Louisiana)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
*N. Orleans, La.	15.5	17.5	3.0	14.0
Baton Rouge	14.0	17.0	2.0	12.5
Alexandria	15.0	18.0	2.0	14.0
LaFayette	15.0	18.0	2.0	13.5
Lake Charles	15.5	18.5	2.0	14.0
Shreveport	15.5	18.5	2.0	13.0
Kn'xville, T'nn.	19.5	22.5	3.0	15.0
Memphis	15.0	16.5	3.0	14.0
Chattanooga	19.5	22.5	3.0	15.0
Nashville	18.0	21.0	3.0	15.0
Bristol	19.0	22.0	3.0	14.0
Lit. Rock, Ark.	16.0	16.0	5.0	12.0

*Tax of 3 cents includes city tax of 1 cent.
*Louisiana kerosene prices include 1-cent state tax and 1-cent parish tax.

SOUTHERN DISTRICT

Standard Oil Co. (Kentucky)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Atlanta, Ga.	14.0	16.0	4.0	15.5
Augusta	19.0	22.0	4.0	16.5
Macon	19.0	22.0	4.0	16.5
Savannah	17.0	19.0	4.0	14.5
Birm'h'm, Ala.	18.0	21.0	4.0	15.5
Mobile	17.0	20.0	4.0	15.0
Montgomery	19.0	22.0	5.0	16.5
Clarks'le, Miss.	17.0	20.0	4.0	12.5
Jackson	17.0	20.0	4.0	13.5
Natchez	16.5	19.5	4.0	14.0
Gulfport	18.5	21.5	6.0	14.0
Vicksburg	16.5	19.5	4.0	14.0
Jack'ville, Fla.	18.0	21.0	5.0	14.0
Miami	20.0	23.0	5.0	15.5
Pensacola	19.0	22.0	5.0	14.0
Tampa	18.0	21.0	5.0	14.0
Lexington, Ky.	18.0	21.0	5.0	15.5
Covington, Ky.	19.0	22.0	5.0	15.5
Louisville	18.0	21.0	5.0	15.0

In addition to the state tax of 2 cents on gasoline, Montgomery has city tax of 1 cent on gasoline. Kerosene prices in Georgia includes 1 cent tax. In Florida, an inspection fee of 0.125 cent; in Alabama, an inspection fee of one-half cent on kerosene only. Pensacola tax includes 1 cent city levy. Gulfport tax includes privilege tax of 2 cents in addition to state tax.

PENNSYLVANIA-DELAWARE AND PART NEW ENGLAND

Atlantic Refining Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Pittsburgh, Pa.	16.0	*22.0	...	14.0
Philadelphia	16.0	21.0	...	14.0
Scranton	16.0	*22.0	...	14.0
Allentown	16.0	*22.0	...	14.0
Altoona	16.0	*22.0	...	14.0
Erie	12.0	*18.0	...	14.0
Dover, Del.	19.0	22.0	3.0	14.0
Wilmington	19.0	22.0	3.0	14.0
Spring'd, Mass.	18.0	18.0	...	15.0
Worchester	17.0	17.0	...	15.0
Boston	17.0	17.0	...	15.0
Providence, R.I.	19.0	19.0	2.0	15.0
Hartford, Conn.	20.0	20.0	2.0	15.0
New Haven	20.0	20.0	2.0	15.0

*Includes tax of 3.0 cents. Pennsylvania tax is collected by the dealer and paid by him direct to the state.

NEW YORK AND PART OF NEW ENGLAND DISTRICT

Standard Oil Co. (New York)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Albany, N. Y.	17.0	19.0	...	15.0
*New York	17.0	19.0	...	15.0
Buffalo	17.0	19.0	...	14.0
Rochester	13.0	16.0	...	14.0
Syracuse	17.0	19.0	...	15.0
Boston, Mass.	17.0	19.0	...	15.0
Augusta, Me.	21.0	23.0	4.0	15.0
M'nch't'r, N.H.	18.0	22.0	3.0	15.0
Burlington, Vt.	20.0	22.0	3.0	15.0

*Price in steel barrels.

PACIFIC COAST DISTRICT

Standard Oil Co. (California)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
San Francisco	17.0	21.0	3.0	15.5
Pueblo	18.0	18.0	3.0	15.5
Los Angeles	16.5	20.5	3.0	15.5
Reno, Nev.	22.0	26.0	4.0	19.0
Portland, Ore.	17.5	21.5	3.0	16.5
Seattle, Wash.	16.5	20.5	2.0	16.5
Tacoma	16.5	20.5	2.0	16.5
Spokane	20.5	24.5	2.0	20.5
Phoenix, Ariz.	22.0	26.0	3.0	20.5

ATLANTIC COAST DISTRICT

Standard Oil Co. (New Jersey)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Atlantic City	18.0	20.0	2.0	14.0
Newark, N. J.	18.0	20.0	2.0	14.0
Annapolis, Md.	20.0	23.0	4.0	12.0
Baltimore	20.0	23.0	4.0	10.0
Cumberland	20.0	23.0	4.0	14.0
Washington	18.0	21.0	2.0	12.0
Danville, Va.	20.5	....	4.5	14.0
Norfolk	20.5	23.5	4.5	12.0
Petersburg	20.5	23.5	4.5	14.0
Roanoke	20.5	23.5	4.5	14.0
Richmond	18.5	21.5	4.5	14.0
Ch'rist'n, W.Va.	20.0	23.0	4.0	14.0
Keyser	20.0	....	4.0	14.0
Parkersburg	17.0	20.0	4.0	14.0
Wheeling	20.0	23.0	4.0	14.0
Charlotte, N. C.	20.0	23.0	4.0	14.0
Hickory	20.0	23.0	4.0	14.0
Mt. Airy	20.0	23.0	4.0	14.0
Salisbury	20.0	23.0	4.0	14.0
Charl'stn, S. C.	20.0	23.0	5.0	14.0
Columbia	20.0	20.0	5.0	14.0

NEBRASKA

Standard Oil Co. (Nebraska)

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Omaha	14.25	16.26	2.0	12.25
McCook	14.75	14.75	2.0	11.50
Norfolk	16.75	18.75	2.0	12.75
N. Platte	17.75	19.75	2.0	13.50
Scottsbluff	17.25	19.25	2.0	13.00

ROCKY MOUNTAIN DISTRICT

Continental Oil Co.

	Gasoline			Kero.
	Tank wagon	Service station	Incl'd's tax of	tank wagon
Denver, Colo.	16.0	16.0	3.0	12.5
Pueblo	15.0	15.0	3.0	14.5
Grand Jnctn.	20.5	22.5	3.0	18.0
Casper, Wyo.	17.0	19.0	3.0	13.0
Cheyenne	18.0	20.0	3.0	14.5
Butte, Mont.	22.0	22.0	3.0	19.0
Helena	22.5	24.5	3.0	19.0
Salt Lake, Utah	20.0	21.0	3.5	17.0
Boise, Idaho	23.5	25.5	4.0	19.0
Twin Falls	23.5	25.5	4.0	19.0
Albu'que, N. M.	21.0	24.0	5.0	17.0

TANK WAGON CHANGES

December 3. Continental Oil Co. reduced the gasoline tank wagon price 1 cent and the station price 2 cents at Salt Lake City, Utah, making the new prices 20 cents and 21 cents respectively.

December 7. Standard Oil Co. of Indiana reduced the amount of furnace oil needed to be purchased in order to get the same quantity discount. The new schedule allows a 1-cent discount on purchases of 100 to 349 gallons and a 1½-cent discount on purchases of 350 gallons or more. With the present tank wagon at 9 cents in Chicago, the price on lots of 100 to 349 gallons is 8 cents and on 350 gallons or more, 7½ cents per gallon.

December 8. Atlantic Refining Co. increased the gasoline tank wagon price 1 cent and the station price 4 cents in Philadelphia, Pa., making the new prices 15 cents and 21 cents., increased these 1 cent each in Springfield, Mass., making both the tank wagon and station prices 18 cents. They also reduced the gasoline tank wagon price 2 cents in Erie, Pa., to 12 cents and reduced the tank wagon and station gasoline prices to 20 cents throughout Connecticut.

CALIFORNIA MARKETS CONTINUING STEADY

LOS ANGELES, Calif., Dec. 10.—There has been no change of any consequence in the California oil market. Gasoline for domestic consumption is moving in good volume with prices steady. Competition in and around Los Angeles remains keen but there are no signs of serious price cutting. Pan American Petroleum Co. has just come out with its new green gasoline. From now on all Pan gas will be green. On the local market at present there is in addition to the new green gas, red gasoline and blue gasoline, and of course the water white grade. Apparently there is a belief among marketing companies that a colored gasoline appeals to the motoring public.

The kerosene market continues steady, the majority of domestic sales being made around 6 cents. Export sales are bringing from 4½ to 4¾ cents. The export trade is taking large volumes of kerosene from the Southern California market, almost entirely in cases.

Due to the recent cold spell, a heavy demand has developed for so-called smudge oil. This product is about 30-32 gravity with amber color and is used by citrus marketers. During cold spells prices for this commodity will strengthen as much as 10-20 cents per barrel in a couple of days.

Fuel oil continues to move out of California in large volumes. Within the state prices are not as good as some smaller refiners not able to move their fuel oil in cargo lots must sell in the domestic market, which requires that their price must be lower to move their oil. This condition is not as serious as two or three months ago.

CHAMPLIN OFFICE FIRE

Fire of unknown origin destroyed the two-story office building of the Champlin Refining Co. located at Enid, Okla. The property loss was approximately $150,000. Some valuable papers belonging to the company were burned. H. H. Champlin, president of the company, has announced that the building will be rebuilt as soon as possible.

PROOF OF EXPERIENCE

The precedent and experience of the industry is entirely in favor of the opinion that sufficient oil will be found rather than that it will not be.—J. Edgar Pew, vice president Sun Oil Co.

CRUDE OIL PRICES

(Continued from Page 143)

Artesia (March 12)	1.40
Hogback (N. Mex.) (March 14)	1.31

Note: Salt Creek, Osage, Cat Creek, Greybull and Hogback posted by Midwest Refining Co., and the remainder by the Ohio Oil Co. Both companies post Grass Creek light and Elk Basin.

EASTERN STATES

Joseph Seep Purchasing Agency
(Effective December 4)

Penna Grade Oil in New York Transit Line (New York)	$2.75
Bradford District Oil in National Transit Lines (Pennsylvania)	2.75
Penna Grade Oil in National Transit Lines (Pennsylvania)	2.60
Penna Crude Oil in Southwest Pennsylvania Lines (West Virginia)	2.60
Penna Grade Oil in Eureka Pipe Line lines (Pennsylvania)	2.55
Penna Grade Oil in Buckeye Pipe Line lines (Ohio) (August 23)	2.25
Cabell Grade Oil in Eureka Pipe Line lines (West Virginia) (December 4)	1.50
Corning 35-cent grade oil in Buckeye Pipe Line Co.'s line (March 17)	1.35
Corning 25-cent grade oil in Buckeye Pipe Line Co.'s lines (March 17)	1.45
Somerset Oil in Cumberland Pipe Line lines (Kentucky) (December 4)	1.60
Ragland Grade Oil in Cumberland Pipe Line lines (Kentucky) (August 1)	.95
Keister (Pennsylvania) (August 1)	1.10

MIDDLE WESTERN STATES

Ohio Oil Co.
(Effective March 14)

Lima	$1.71
Wooster	1.57
**Saginaw, Mich., Saginaw Sand (May 27)	2.05
Illinois	1.60
Indiana	1.48
Princeton	1.60
Plymouth	1.33
Waterloo (Nov. 17, 1926)	1.35
*Western Kentucky	1.33
**Saginaw, Mich., Berea Sand (May 27)	1.95
†Cumberland, Barren, Clinton and Monroe Counties, Kentucky (March 16)	1.50
‡Oil in lines of Stoll Oil Refining Co. in Oil City, Ky. (March 16, 1927)	1.50
†Clay County, Tennessee (Nov. 18)	2.35
§Oil Springs (Canada)	2.18
§Petrolia (Canada)	2.11

*Posted by Ohio Oil Co.
†Posted by Paragon Development Co.
‡Posted by Stoll Oil Refining Co.
§Posted by Imperial Oil Co., Ltd.
**Posted by Sun Oil Co.

MEXICAN CRUDE

Note—Due to the fact that the exportation of Tuxpam light crude oil his become a negligible factor, prices will no longer be published.

*Panuco heavy (f.o.b. Mex. ports)	$1.15

*17.496 cents tax.

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Oil Security Prices Were Well Held

Despite Bearish Situation in General Market Advances Were Scored by Some Oil Issues

In spite of the bearish situation in the remainder of the list, the oils have been well held during the past week's trading, advances having been scored on a number of issues.

Pipe line securities continued to show an advancing tendency, and were in good demand throughout the week. Pipe lines generally have profited by the large production and movement of crude oil during the year. Increased earnings are considered a natural sequence, in as much as transportation rates have held up.

Prairie Pipe Line, under limited trading, showed a satisfactory advance during the week. Illinois Pipe and Indiana Pipe Line showed recuperative power under selling, the latter firming up on announcement of the dividend. International Petroleum was under some pressure, and showed a recession for the week, Standard of Indiana and Vacuum also registering slight declines.

The situation this week has been an unfavorable one for a bull movement on any group. Strong selling pressure has been exerted almost continuously since the President's message with operators displaying extreme conservation in their operations. Bears have shown a tendency to take full advantage of the break and are taking short interests wherever possible.

In the oils group, the impression appears to prevail that most of the unfavorable developments within the industry have been more than discounted. Opinion among many operators at present is that most of the leading oils are good buys for a long pull, but the market within recent months has not been inclined to give this class of stock consideration, concentrating more heavily on the quick turnover issues. There is evidence, however, of a little more public interest in the oils, and while this has not yet been mirrored by any heavy buying movement, the market has been well supported on recessions, and the stronger undertone is manifested by the way in which the general market for oils has held up in the face of a declining market on rails, industrials, coppers and other groups.

Prairie Pipe Line

Prairie Pipe Line Co. is having a big year, with 1927 earnings estimated close to $25 a share on the $10,000 shares of stock outstanding. This would compare with $17.83 a share earned in 1926. The figures do not include earnings of Pure Oil Pipe Line Co., a subsidiary, which showed the equivalent of $1.60 a share on Prairie stock in 1926. Crude oil deliveries through the Prairie lines are running nearly 28 per cent ahead of 1926 totals. November, normally a dull month with the pipe lines, was a good one for Prairie with deliveries showing an average daily gain of 9 per cent over October. For the first 11 months of 1927 deliveries aggregated 59,181,091 bbls., an average of 177,189 bbls. daily, against 46,356,619 bbls., or 138,792 bbls. daily in the corresponding period last year. Total deliveries this year, based on the first 11 months' period, will be the largest handled by Prairie for several years. The following table gives figures for the past five years, with comparison for the first 11 months of 1927:

	Bbls.
1922	57,613,867
1923	49,649,262
1924	42,655,145
1925	52,392,472
1926	50,688,577
1927 (11 months)	59,181,091

The company recently started running oil through its 200-mile line from the Panhandle fields in Texas to Ringling, Okla., which was completed early this year. These shipments accounted in part for the heavier deliveries in November. The balance sheet for 1926 showed cash, investments and accounts receivable of $47,992,003, or $59.25 a share on the stock. Current liabilities were $2,117,751, or $2.61 a share. The company has no funded debt. Increased earnings and the excellent financial condition of the company have given rise to the rumor that Prairie directors will shortly consider the payment of an extra dividend. The company last March increased its regular dividend rate from $2 a share quarterly to $2.50. The stock of the company touched a high of 190 this year and a low of 132, and is currently selling around 180.

Gibson Oil Co.

Control of the Gibson Oil Co. passed this week, with the election of three new directors of a board of five. The new directors are F. de C. Sullivan, a director of the National Surety Co. and the Interborough Rapid Transit Co.; Hugh K. Tobias and Liston L. Lewis. James R. Dunn and William R. Crusoe were re-elected to the board. The new directors are understood to be affiliated with eastern bankers for other oil companies.

British Controlled Oilfields

British Controlled Oilfields, Ltd., reports for the year ended July 31, 1927, net profit of $183,389 after writing off $260,686 for the year's development expenses, as compared with net profit of $410,110, after deducting expenses of $233,072, in the preceding year. Production of oil for the year amounted to 2,452,257 bbls., against 2,374,702 bbls. in the preceding year.

Margay Oil Reports

The Margay Oil Corp. reports for the nine months ended September 30 net profits of $654,503 after depreciation and depletion, but before Federal income taxes. This was equal to $4.37 a share earned on the 149,758 shares of no par capital stock outstanding, which compares with $1.87 a share earned on the same number of shares for the corresponding period last year.

Beacon Increases Capital

Stockholders of the Beacon Oil Co., meeting in Boston this week, approved the directors' proposal for an increase in the authorized no-par common stock from 1,000,000 to 1,500,000 shares. The date of the annual meeting was changed from the second Monday in January to the last Tuesday in March. The stockholders also ratified a plan for subscriptions to stock in the company by officers and employes. Beacon Oil has shown a considerable expansion in operations during recent months, and now operates a number of filling stations in New York City. The stations of this company were involved in a local price war last month, during which gasoline sold down to 15 cents a gallon, about 4 to 5 cents under the established market.

General American Tank Issue

The General American Tank Car Corp. sold this week through Drexel & Co. and Charles D. Barney & Co., both of New York, an issue of $1,960,000 4½ per cent equipment trust certificates, series AA, due $140,000 annually December 15, 1929-1942, inclusive. The issue was sold at prices to yield from 4.50 to 4.85 per cent. The certificates are secured by 1,193 cars, valued at $2,800,000. The equipment covered comprises 893 new refrigerator and tank cars and 300 tank cars in use on an average of four years.

NEW YORK STOCK EXCHANGE—LIST OF ACTIVE STOCKS

Stocks—	Par	Clos. Quot. Dec.12	Dec.5	1927 High	1927 Low	1926 High	1926 Low	1925 High	1925 Low
Amerada Corp.	..	29⅝	29	37½	27⅝	32⅞	24¾	..	..
Atlantic Refining, com.	100	108⅜	107⅛	131⅝	107	128⅜	97	117½	96½
Barnsdall "A"	25	25⅛	24¼	35½	20¾	32½	23½	33½	18¾
California Petroleum, com.	25	23¼	22	32⅝	20	38⅛	30⅞	34⅜	23⅜
Houston Oil	100	159	158	175¾	60½	75	50¼	85	50
Independent Oil & Gas	..	26	25	32¾	17⅝	34	20¼	41¾	13½
Louisiana Oil	10	10⅝	10⅜	18¼	10½	19⅝	12	23¾	13¾
Maracaibo	..	15¼	12⅝	22¾	12	27¾	18⅜	35½	20¾
Marland	..	33⅜	33⅞	58¼	31	63⅞	41¼	60⅛	31⅝
Mid-Continent Petroleum	..	27⅝	27⅝	39⅜	25½	41	25⅝	38	25⅜
National Supply	50	94¼	95	95⅜	76	84⅞	55½	71	54⅜
Oil Well Supply	25	32⅜	33½	44⅜	31¼	36	30	38	33⅜
Pan American, B	50	44⅞	44	66⅜	45⅛	72⅜	56⅛	83⅞	59⅛
Pan American, Western B	..	19⅜	18⅞	37⅞	16⅜	46	34	94⅜	37¼
Phillips Petroleum	..	41½	40½	60¼	36½	54⅞	42⅛	47⅛	47¼
Producers & Refiners	50	25	24⅜	33⅞	16⅜	26	11	32⅝	12½
Pure Oil, com.	..	25⅜	25½	33½	25	31	25⅜	33¾	32½
Royal Dutch, N. Y., sh.	13.40	47⅞	47	54½	44¼	57⅜	49⅜	57⅜	48¼
Shell Transport	10	42⅜	42⅝	49	41½	48⅞	42	49	30⅜
Shell Un on, com.	..	25⅜	25⅜	31⅜	24⅝	30⅞	24	28¾	21⅝
Simms Petroleum	10	23⅞	22	23⅞	14¼	25⅝	16½	28½	18¾
Sinclair Consolidated	..	17⅛	16⅞	22⅝	15⅛	24⅞	16¾	24⅞	17
Skelly Oil	25	26	26¼	37⅜	24⅛	37⅛	27	32½	21¾
Standard of California	25	54¾	55⅛	60¾	50⅜	63½	54	67¼	52½
Standard of New Jersey, com.	25	39⅜	39⅜	41⅝	35⅛	46⅝	37½	47½	38⅜
Standard of New York	25	31½	31⅛	34⅛	29¾	47¼	30⅝	48⅝	40
Sun Oil Co.	..	30⅞	31½	34⅞	30	41¼	30⅛	43⅞	38½
The Texas Company	25	52⅞	52⅞	58	45	58	48	55	43¾
Texas Pacific Coal & Oil	10	13½	13¼	18⅞	12	19½	12⅛	23¼	11
Tide Water Associated Oil	..	14½	13⅞	19⅛	15⅜	21	17	..	..
Transcontinental	..	9⅛	9⅜	10⅜	3¾	5½	3	5⅝	3½
Union Oil of California	25	42⅝	43⅛	56½	39⅜	53⅜	37¼	43⅝	38½
Union Tank, com.	100	120	117½	120⅞	94	120⅜	84¾	134	118
White Eagle Oil & Refining	..	21½	21⅞	27½	21¾	29¾	25⅛	28¾	25⅝
Standard Oils									
Anglo-American Oil	£1	19	18⅜	21⅝	17⅛	19¾	16½	26¾	17½
Borne Scrymser	25	57	57	69	49½	75	65	‡240	205
Buckeye Pipe Line	50	57	58	59	45	59½	42	72	63½
Chesebrough Manufacturing Co.	25	119	121	126	76½	81½	63	74	48¼
Continental	10	18⅜	18⅝	22⅝	16¼	25⅞	10¼	31¼	21⅞
Cumberland Pipe Line	100	90	92	‡137	90	137	102	156	128
Eureka Pipe Line	100	66	68	66	47	43⅜	43	96	61¼
Galena Signal, com.	100	4½	7⅛	13½	4½	32½	9⅞	68½	23½
Humble Oil & Refining Co.	25	65⅜	65¼	66⅜	54	99⅝	52	99	40½
Illinois Pipe Line	100	178	173	181½	123¾	144	131	154½	124
Imperial Oil	..	60	61½	64¾	37¾	39⅜	32½	39¼	27¼
Indiana Pipe Line	50	75	72½	93	61	68	52¼	84	57⅛
International Petroleum Co.	10	36¼	37½	34⅞	28¼	35¼	28⅝	25⅜	20⅛
National Transit Co.	12.50	20⅛	22⅝	23¼	13¼	30⅜	27¼	25½	16½
New York Transit	100	38	41	42	31¼	61½	27¼	70	50
Northern Pipe Line	100	94	99½	96	70	80½	64	88	67½
Ohio Oil Co.	25	65	64¾	65	52	67⅜	53⅝	75¼	60
Penn-Mex Fuel	25	32¾	32	36½	12	24¼	15	44	19
Prairie Oil & Gas	25	48⅝	48⅝	55½	45⅝	60¼	49	65½	45⅞
Prairie Pipe Line	100	184	184	189¼	132	137½	122½	129¾	105
Solar Refining Co.	100	175	180	‡201½	178	212	184½	259	200
South Penn Oil	25	37½	38	41½	34½	50	30	‡197	139
Southwest Pa. Pipe Line	100	78	78	78	55½	56	47½	84	50
Southern Pipe Line	50	21½	21	39	18½	27	34	‡103	63
Standard of Indiana	25	77⅝	78⅜	80¼	64⅝	70½	60½	70¾	69¼
Standard of Kansas	25	15¼	15½	20⅞	15⅝	36½	16½	45	30
Standard of Kentucky	25	122½	124¼	125½	111½	134⅝	107	137	114⅜
Standard of Nebraska	25	41½	43	49½	43	51⅛	42	‡270	231
Standard of Ohio, com.	100	77	78	81½	72	362	192½	369	338
Swan & Finch, com.	25	18	18	21	14½	21	18	27	12
Vacuum Oil	25	145	141⅜	147	95⅛	109⅜	94⅛	109½	80½
Miscellaneous									
Gulf Oil Corp. of Pa.	25	101	104	105	86¼	95	82½	98¼	63½

*Bid, no sales. ‡Old stock. †New stock. §Ex-dividend.

Quotations furnished by W. J. Wollman & Co.

The Oil and Gas Journal's weekly average price of 20 representative petroleum stocks listed on the New York Stock Exchange was as follows:

Dec. 12	62.07	Nov. 7	61.30	Oct. 3	60.97
Dec. 5	62.06	Oct. 31	60.98	Sept. 26	61.40
Nov. 28	62.92	Oct. 24	60.45	Sept. 19	60.83
Nov. 21	63.66	Oct. 17	59.22	Sept. 12	61.20
Nov. 14	62.78	Oct. 10	59.20	Sept. 5	60.60

GULF COAST MARKETS SEE NO IMPROVEMENT

HOUSTON, Tex., Dec. 13.—Although moving a good volume of business, Gulf Coast manufacturers of lubricating oils failed to see any improvement in the price situation the past week. Monday markets showed only slight variations from a week ago. Instead, outside competition, which has had an extremely bearish effect on Gulf Coast oils quoted into the middle west and central northern states for some time, was beginning to be felt in the southeastern states the past week. This tended to prevent any strengthening of prices. Cold weather demand for gulf coast zero test oils, which usually is reflected in the lighter grades around 200 and 300 viscosities, so far has not resulted in any substantial increase in orders for those oils. On the other hand, refiners point out that more and more of their business is coming from the southeastern states, bringing about a more steady movement of their products the year around. There was very little change in fuel oil unless it was that there was a slightly weaker tone.

The principal business the past week was in bunker fuel with tank car sales light. It was quoted freely at $1.25 although what industrial business was done was at slightly higher figures.

PENNSYLVANIA MARKET SHOWS FEW CHANGES

OIL CITY, Pa., Dec. 12.—Weather played an important part in the developments of the past week in the Pennsylvania refined district. With near zero weather prevailing throughout the marketing territory of refineries located in this State, motor fuel demand was at a low ebb and the products which produce heat were selling brisk.

Gasoline held up fairly well during the week. The movement slowed up considerably following the arrival of the blizzard and actual consumption was at a low mark. The remarkable feature was that the price held firm, however. In fact, there were very few changes in the prices of the entire list of Pennsylvania products.

Kerosene with the approach of cold weather was selling fast. Fuel oil was also better, the weather playing an important part in the demand. Bright stocks were improved but not much. The reason for the improvement was not greater demand but rather a withdrawal of "distress" material from the market. Cylinder stocks were in the same position as the week previous. Wax was improved. The demand for neutrals was good but not as great as prevailed in the past.

WILDCAT OPERATIONS IN PANHANDLE

(Continued from Page 40)

Midwest Expltn. Co.'s No. 1 L. Holmes, Sec. 86, Blk. 3, I. & G. N. Sur. — Building rig.

Neudigate et al's No. 1 A. Chapman, NE cor. E ½, SE, Sec. 52, Blk. 25 — 500,000 ft. gas, 2,760-65 ft; rainbow of oil, 2,820-25 ft; salt wtr; G.W., 2,827-28 ft; S.D., 2,835 ft.

Operators Oil Co.'s No. 1 Jackson — Flowed 1,800 bbls. in 24 hrs. from best G.W. pay, 2,967-84 ft. but now off production; C.O.

Operators Oil Co.'s No. 2 W. Jackson, NW cor. N ½ NE, Sec. 88, Blk. B-2 — New loc.; rig on ground.

Phillips Pet. Co.'s No. 1 Davidson (Myson) — Rigging up.

Phillips Pet. Co.'s No. 1 W. Jackson (was Clark et al's No. 2) — Drlg., 2,700 ft.

Phillips Pet. Co.'s No. 2 W. Jackson (was Clark et al's No. 3) — Drlg., 2,750 ft.

Phillips Pet. Co.'s No. 3 W. Jackson — Set. 12-in., 927 ft.

Phillips Pet. Co.'s No. 1 Jackson-Riley (was Clark et al's No. 1 W. Jackson) — 7,000,000 ft. gas, 2,442-2,545 ft; made flow, 2,942 ft; fish tools, 2,974 ft.

Phillips Pet. Co.'s No. 2 Jackson-Riley — Drlg., 1,800 ft.

Pampa Oil Co.'s No. 1 W. R. Campbell, Sec. 90, Blk. 3 — 700 ft. wtr., 3,430 ft; S.D.

Purple Sage Oil Co.'s No. 2 E. B. Johnson — Spudding.

Remo Oil Co.'s No. 1 B. E. McKinney — Rigging up.

St. Clair Oil Co.'s No. 1 C. H. Rowe — Cellar and rig on ground.

Shamrock Pet. Co. et al's No. 1 J. B. Back, SE NW SW, Sec. 44, Blk. 25 — T.D., 2,360 ft; run 6-in.

Shamrock Oil Co.'s No. 1 W. S. Clayton — Rig on ground.

Skelly Oil Co.'s No. 1 Bradford, NE cor. Sec. 118, Blk. B-2, H. & G. N. Sur. — Rigging up.

Skelly Oil Co.'s No. 1 W. Jackson — T.D., 2,830 ft; U.R., 6-in; 7,000,000 ft. gas, 2,780 ft.

Skelly Oil Co.'s No. 2 Jackson — Cmt., 12-in., 1,100 ft.

Spartan Oil Co.'s No. 1 J. Hopkins — Rig.

Sullivan et al's No. 1 A. Chapman — Rig on ground.

Sullivan et al's No. 1 A. Chapman-A — Rigged up and S.D. for wtr.

Sun Oil Co.'s No. 1 Jackson — Drlg., 600 ft.

Staggers Oil Co.'s (was Ruby Oil Co.'s) No. 1 B. F. Tally — T.D., 635 ft; S.D.

The Texas Company's No. 1 J. B. Bowers — Drlg., 1,960 ft.

The Texas Company's No. 2 J. B. Bowers — Drlg., 1,975 ft.

The Texas Company's No. 3 J. B. Bowers — Drlg., 460 ft.

The Texas Company's No. 4 J. B. Bowers, SE cor. SE, Sec. 93, Blk. B-2 — New location.

The Texas Company's No. 2 H. M. Davis, SW cor. NW, Sec. 86, Blk. 3 — New loc.; rig on ground.

The Texas Company's No. 1 McLarty et al, SW cor. E ½ NW, Sec. 1, Blk. 1, A. C. H. & B. Sur. — New location.

The Texas Company's No. 1 S. McLarty — Rig on ground.

The Texas Company's No. 4 G. H. Saunders — Drlg., 1,950 ft.

HALE COUNTY

Bailey & Young's No. 1 Thomas, Sec. 1, Blk. J.K.L. — S.D., 175 ft.

Donnell Pet. Co.'s No. 2 Mullican, NW cor. Sec. 66, Blk. A-3, I. & S. B. Sur. — Top pay in sandy shale, 405 ft; ½ bailer oil and 3 bailers wtr. per day; S.D., 620 ft.

Donnell Pet. Co.'s No. 1 Mullican, C Sec. 21, Blk. B, R. M. Thompson Sur. — 200 ft. fluid in hole from 407-14 ft; S.D.

Expltn. Co.'s No. 1 Crawford, C NE, Sec. 17, Blk. C-3, T. T. R. R. Sur. — Spudded and S.D.

Expltn. Co.'s No. 1 Goodman — Spudded and S.D.

A. S. Mimm's No. 1 W. A. Ritcher, 700 ft. from east line and 1,200 feet from south line, Sec. 17, Blk. X, John Glynn Sur. — S.D., 1,140 ft.

Tolbert & Simms' (was Gouldy & Stone's) No. 1 Kitteral, SE cor. NW, Sec. 65, Blk. A-3, G. C. & S. F. Sur. — S.D., 485 ft.

HALL COUNTY

Briscoe Oil Assn.'s (was Seifert et al's) No. 1 Owens, C NE, Sec. 179, Blk. S-5, Dennison & Pacific Sur. — Spudded and S.D.

HANSFORD COUNTY

Caldwell et al's No. 1 J. Adriance est. — Drlg., 530 ft.

Oklavania et al's No. 1 Coots, Sec. 13, Blk. 45, H. & T. C. Sur. — S.D., 560 ft.

HOCKLEY COUNTY

World Oil Co.'s No. 1 Ellwood — S.D., 1,455 ft.

HARTLEY COUNTY

Deep Rock Oil Co.'s No. 1 Lymann & Balfour, Sec. 9 — Preparing to abd., 4,038 ft.

Eslick et al's No. 1 J. R. Irving, Sec. 13, Blk. 13 — Topped G.W., 3,103 ft; show oil, 3,226 ft; hole full wtr., 3,745-55 ft; S.D., 4,000 ft.

HEMPHILL COUNTY

Hoover et al's No. 1 Schaller est., Sec. 4 — Spudded and S.D.

Hoover et al's No. 1 fee, J. S. Hood Sur. — Drlg., 4,840 ft.

HUTCHINSON COUNTY

R. G. Barnum et al's No. 1 Garland Sanford, Sec. 78, Blk. 46 — Rig.

Beam et al's No. 1 Cockrell, Sec. 3, Blk. 23 — S.D., 405 ft. for orders.

Big Coach Oil Co.'s No. 1 Dunnaway, Sec. 5, Blk. Y — S.D., 750 ft.

Conklin et al's No. 1 Johnson, Sec. 1, Blk. X03, H. & O. B. Sur. — S.D., 600 ft.

Harris et al's No. 1 J. Q. Bost, Sec. 10, Blk. Y-2, T. T. R. R. Sur. — Rig.

Holmes & Quinn's No. 1 J. K. Quinn, SW cor. Sec. 9, Blk. 3, B. S. & F. Sur. — New loc.; rigging up.

McMan O. & G. Co.'s No. 1 Albert Yake — Drlg., 1,470 ft.

Phillips Pet. Co.'s No. 12 Elva-Whittenburg, E. Tomlinson Sur. — T.A., 4,445 ft.

Phillips Pet. Co. and White Eagle O. & R. Co.'s No. 1 Lee Bivins — Top pay, 2,994 ft; S.D. for storage, 2,998 ft; 1,500 ft. oil.

Prairie O. & G. Co.'s No. 1 Burnett est (Clark) — Top pay, 2,955 ft; T.D., 3,045 ft; 200 ft. oil in hole; rig. up cable tools.

Prairie O. & G. Co. and Vacuum Oil Co.'s No. 2 Cal Merchant — Drlg., 1,500 ft.

Skelly Oil Co.'s No. 2 Armstrong & Byrd — Rig.

Skyrocket Oil Co.'s No. 1 Mrs. R. A. Jameson — Drlg., 3,060 ft.

The Texas Company's No. 1 Cockrell-B — Drlg., 2,670 ft.

The Texas Company's No. 2 T. D. Lewis — Shot of 110 qts., 2,925-85 ft; top pay lime, 2,925 ft; T.D., 3,090 ft; 100 ft. wtr. in hole, from 3,080-90 ft; swabs 10 bbls. oil and 20 bbls. wtr.

Timms et al's No. 1 C. R. Garner — Drlg., 1,120 ft.

KING COUNTY

Humble O. & R. Co.'s No. 1 Pitchfork, Sec. 171, Blk. A-96, John H. Gibson Sur. — Drlg., 2,920 ft.

J. L. Pattison's No. 1 Patton — Slight show gas, 2,115-30 ft; drlg., 3,150 ft.

LAMB COUNTY

Dan Freel et al's No. 1 Ellwood, CWL S,ec. 9, Blk. T. T. A. Thompson Sur. — Rig.

Tolbert & Simms' No. 1 Ellwood, NE SW SW, Sec. 14, Blk. B. R. M. Thompson Sur. — S.D., 712 ft; small show oil and hole full wtr; bailing.

LIPSCOMB COUNTY

Cal-Tex's No. 1 Bradford, C NE NE, Sec. 899, Blk. 43, H. & T. C. Sur. — Spudded and S.D.

Camp Creek Oil Co.'s No. 1 Mrs. H. D. May, Sec. 612, Blk. 43 — S.D., 1,400 ft.

McCorkle's No. 1 A. Barton, NE cor. SW SE, Sec. 504, Blk. 43, H. & T. C. Sur. — Wtr. in lime, 4,126-40 ft; 6-in set, 4,155 ft; drlg., 4,530 ft.

Ozark Drlg. Co.'s No. 1 Frass, NE SE, Sec. 106, Blk. 16, H. & T. C. Sur. — Rig on ground.

Smith, Kinsley & Ruby's No. 1 C. W. Jones, NE cor. SW, Sec. 100, Blk. 43 — Show oil, 3,520 ft; S.W., 3,900 ft; drlg., 4,300 ft.

LUBBOCK COUNTY

Center Oil Co.'s No. 1 Bowles ranch — Small show oil, 1,133-40 ft., in sand; drlg., 2,730 ft.

MOORE COUNTY

Prairie and Shamrock's No. 2 Gober, Sec. 16, Blk. M-21 — T.D., 2,520 ft; recmt. 12-in., 1,525 ft; drlg. by tools.

MOTLEY COUNTY

Explin. Co.'s No. 1 Burleson — Spudded and S.D.

Explin. Co.'s No. 1 Tillson — S.D., 750 ft. for repairs.

Explin. Co.'s No. 1 Matador Land & Cattle Co., C SW, Sec. 37, John Gibson Sur. — S.D., 1,002 ft.

Wheeler et al's No. 1 C. D. Bird, C NE, Sec. 4, Blk. S, Stephens Sur. — Spudded and S.D.

OLDHAM COUNTY

Prairie O. & G. Co.'s No. 1 Landegrin, SE cor. NE SW, Sec. 46, League 310, Capital land — 1,900 ft. wtr., 4,085-93 ft; 1 bailer wtr. per hr. and light scum oil, 4,527 ft. (steel line meas.) cmt. 6-in., 4,442 ft; 2,000 ft. S.W., 4,850-56 ft; T.D., 4,918 ft; fish for U.R. lugs, 4,920 ft.

POTTER COUNTY

Frank Allen et al's No. 1 W. H. Bush — Spudding.

Prairie O. & G. Co.'s No. 2 Lee Bivins, 660 ft. N. and 330 ft. W. of SE cor. Sec. 39, Blk. M-20, G. & M. Sur. — Drlg., 250 ft.

RANDALL COUNTY

Westbrook Oil Co.'s No. 1 J. Beckman, SW cor. SE NE, Sec. 46, Blk. B-5 — New loc.; spudding.

ROBERTS COUNTY

Big Bend Oil Co.'s No. 1 Mrs. H. Ledrick & Sons, Sec. 7, Blk. 5-A — Show gas, 4,990 ft; show oil, 4,992 ft; cas. set, 4,992 ft; S.R. for 3-in. pipe; T.D., 5,153 ft.

SHERMAN COUNTY

Gibson Oil Co.'s No. 1 Bivins, Sec. 35, Blk. 3-B — 100,000 ft. gas, 2,016-26 ft; T.D., 3,353 ft; 2,000 ft. S.W., 3,325-33 ft; fish. for U.R. lugs.

Phillips Pet. Co. and Prairie O. & G. Co.'s No. 1 Price & Fuqua, C NE, Sec. 33, Blk. 2-B, G. H. & H. Sur. — 100,000 ft. gas, 2,105-10 ft; T.D., 3,420 ft; 2,000,000 ft. gas, 3,325-3,420 ft. lime; rigging up.

WHEELER COUNTY

E. L. Arnold's No. 1 M. J. Williams — Show gas, 1,644 ft; T.D., 1,790 ft; fish. bit.

Byrens et al's No. 1 Johnson, SW cor. NE, Sec. 88, Blk. A-5, H. & G. N. Sur. — S.D., 450 ft.

Clark et al's No. 1 J. W. Gordon — Spudding.

Rook et al's (was Foster et al's) No. 1 S. H. McDonald, SE cor. NW SW, J. N. Lindsay Sur. — Spudded.

Hatcher et al's No. 2 J. Hatcher, C NE SW, Sec. 80, Blk. 23, H. & G. N. Sur. — Rigging up.

Piney O. & G. Co.'s No. 1 W. S. Walker, Sec. 44, Blk. 24, H. & G. N. Sur. — Drlg., 1,520 ft.

Rook & Angus' No. 1 Smock (Linkey) C SE SE, Sec. 5, Blk. 24, H. & G. N. Sur. — Rigged up and S.D.

Smith Brady et al's No. 1 P. J. Sorenson, Sec. 53, Blk. A-4 — S.D., 2,120 ft. for orders.

The Texas Company's No. 1 Morgan, Sec. 92, Blk. 17 — 21,000,000 ft. gas, 1,850-2,017 ft; S.D.

The Texas Company's No. 2 Morgan — Drlg., 350 ft.

Vaughan et al's No. 1 M. Ackley — Location.

Pete Woodley's No. 1 J. Boyle — Drlg., 250 ft.

Kaufold et al's No. 1 E. R. Wallace — Rig.

WILDCAT OPERATIONS IN WEST TEXAS

(Continued from Page 38)

J. K. Hughes Dev. Co.'s No. 1 State Bank Commission, CSL Sec. 18, Blk. 4, H. & T. C. Sur. — Location.

Texas Development Co.'s No. 1 J. Cowden — Top lime 2,635 ft.; shut down for f shing tools 4,003 ft.

CROCKETT COUNTY

George Anderson and Marland Oil Co.'s No. 1 University — Hole full sulphur water 1,800 ft.; ¼ bailer oil 2,240 ft.; ¼ bailer sulphur water per hour 2,475 ft.; shut down 2,631 ft.

V. T. Bolin & Co.'s No. 1 P. C. Coates, NW cor. SW Sec. 4, Blk. 3, I. & G. N. Sur. — Shut down 2,110 ft.

Corbett & Gill's No. 1 University — Top salt 855 ft.; smell gas 1,800 ft.; hole full sulphur water 1,985-90 ft.; shut down 2,050 ft. for pipe.

J. S. Cosden, Inc., No. 1 Paul Perner, SW cor. Sec. 38, Blk. 2, I. & G. N. Sur. — Shut down 595 ft. for 15-in. pipe.

Gulf Prod. Co.'s No. 3 Thompson — Total depth 856 ft. brown lime; cem. 8-in.

C. A. Jones et al's No. 1 Powell — Top salt 1,050 ft.; hole full water 2,245 ft.; 1,500 ft. oil 2,590-2,634 ft.; will shoot.

James Kelly et al's (was Corbett & Gill's) No. 1 Todd, C NE Sec. 43, Blk. WX, G. C. & S. F. Sur. — Top salt 993 ft.; show oil 1,948 ft.; 700 ft. sulphur water in hole 2,450 ft.; total depth 2,605 ft.; plugged back to 1,948 ft.

Van McPhail's No. 1 George Thompson — Location.

Van McPhail et al's No. 1 George Thompson — Location.

Magnolia Pet. Co.'s No. 2 Shannon — Show oil 2,385-90 and 2,992 ft.; total depth 4,100 ft.; fishing 20 joints 8-in. casing.

Osage Oil Corp.'s No. 1 H. M. Halff — Shut down 315 ft.

Bob Penn's No. 1 L. P. Powell — Cleaning out 2,355 ft.

William Shaffer et al's No. 1 University, C SE SE Sec. 9, Blk. 47, University Sur., elev. 2,344 ft. — Shut down 2,344 ft.

William Schaffer et al's No. 2 University, 1,350 ft. N and 2,610 ft. E of SW cor. Sec. 9, Blk. 47, University Land — Top salt 1,060 ft.; first oil show 2,190-96 ft.; second 2,225-29 ft.; 1 bailer oil in 10 hrs. at 2,590 ft.; shut down 2,635 ft.; brown lime.

Simmons Oil Co. et al's No. 1 H. M. Halff, NW cor. Sec. 69, Blk. 1, I. & G. N. — Top salt 445 ft.; drlg. 800 ft.; show oil 610 ft.

W. W. Donnelly & Young's No. 1 Massey, Sec. 29, Blk. U-V — Drlg. 300 ft.

McManmon Oil Co.'s No. 1 Blakeney — Will plug at 4,050 ft., total depth.

World Oil Co.'s No. 1 Schneeman-B, Sec. 50, Blk. BB, G. C. & S. F. Sur. — Top salt 1,070 ft.; hole full sulphur water 2,210-15; shut down 2,310 ft.; fishing.

Young & Donnellys' No. 1 J. M. Shannon, C Sec. 11, Blk. 9, D. & S. E. Sur. — 6,000,000 ft. gas at 1,662 ft.; shut down 1,676 ft.

CULBERSON COUNTY

Deep Rock Oil Co.'s No. 2 Kloh-Rumsey, Sec. 21, Blk. 29, T. & P. Sur., T-1 (NE of No. 1) — Drlg. 1,210 ft.

James H. Gardner et al's No. 1 Radford, C SE Sec. 29, Blk. 62, Public School Land Sur. — Shut down 700 ft.

Scott & Dittman's No. 1 Miller, SW cor. NW NE Sec. 1, School Blk. 97 — Drilling 200 ft.

ECTOR COUNTY

The Texas Company and Cosden's No. 1 W. E. Connell, SE cor. Sec. 24, Blk. B-16, School Land — Top salt 925 ft.; drlg. 3,335 ft. brown lime.

FISHER COUNTY

Cranfill & Reynolds' No. 1 J. A. Young, Sec. 208, B. B. B. & C. Sur. — Drlg. 2,015 ft.

Ideal Oil Co.'s No. 1 Jameson, C SE Sec. 111, Blk. 1, H. & T. C. Sur. — Hole full salt water 2,345-2,520 ft.; shut down 3,304 ft.

Marland Oil Co. and Texon's No. 1 McCall, Sec. 108, Blk 3, H. & T. C. Sur. — Rig.

Marland Oil Co. and Vacuum Oil Co.'s No. 1 J. H. R. Lagow — Rigging up at 3,500 ft. to deepen.

R. W. Raney's No. 2 Maberry, Sec. 56, Blk. 1, T. & P. Sur. — Shut down for orders 2,725 ft

The Texas Company's No. 1 D. S. Stevens, C SW SE SE Sec. 79, Blk. 1, H. & T. C. Sur. — Hole full water 2,570-2,615 ft.; pull pipe to straightream.

FOARD COUNTY

Clark et al's No. 1 Atkins — Lime 1,580-1,930 ft.; show gas 1,855 ft.; drlg. 2,360 ft.

Fain-McGaha Oil Corp. et al's No. 1 Mathews ..... Total depth 2,550 ft.; plugged back to 1,506 ft.; swabbing sand 1,484-92 ft.; makes 8 bbls. gas dead oil.

The Texas Company's No. 1 Watkins ..... Drlg. 3,020 ft.

GAINES COUNTY

Westheimer & Daube's No. 1 Birge & Forbes Land Co., Sec. 308, Terrell County School Land ..... Cem. 8-in. 3,900 ft.; total depth approx. 4,650 ft.; fishing underreamer lugs.

GARZA COUNTY

Emerald Oil Co.'s No. 1 D. Boren, NW cor. N ESec. 137, Blk. 5, H. & G. N. Sur. ..... Small show oil in gray lime 1,884-1,902 ft.; shut down 2,600 ft.; show oil and hole full water 2,420-60 ft.

Gulf Prod. Co.'s No. 1 E. P. Swenson-A, Sec. 67, Blk. 2, H. & G. N. Sur. ..... Top salt 495 ft.; drlg. 1,885 ft.

GLASSCOCK COUNTY

Texon & Marland's No. 1 Settles ..... Set 10-in. 1,426 ft.; shut down 1,460 ft.; to drill water well.

HOWARD COUNTY

California Co.'s No. 1 Fisher Bros., SE SW NW Sec. 36, Blk. 33, T. & P. Sur., T-1-S ..... Shows oil 1,530-48 ft. and 1,562-64 ft.; hole full water 2,020-34 ft.; hole full salt water 2,750-75 ft.; top lime 3,065 ft.; fishing tools 3,225 ft.

Coyle-Concord Oil Co.'s No. 1 Dora Roberts ..... Repairing machine 1,740 ft.
Coyle-Concord Oil Co.'s No. 2 Dora Roberts ..... Cem. 6-in. 1,650 ft.
Coyle-Concord Oil Co.'s No. 3 Dora Roberts, Sec. 156, Blk. 29 ..... Moving in rotary.
Dixie Oil Co.'s No. 1 H. R. Clay ..... Drlg. 2,810 ft.
Henshaw et al's No. 1 W. R. Settles, SW SE SW Sec. 135, Blk. 29 ..... Hole full sulphur water 1,325-30 ft.; shut down 1,900 ft.

Lockhartt & Co.'s No. 1 Dora Roberts, Sec. 157, Blk. 29 ... Moving in rotary.
Marland Oil Co.'s No. 1 Clay-E, NW NE SE Sec. 138, Blk. 29 ..... Pay 2,480-2,500 ft.; swabbed approx. 160 bbls.; hole full salt water 2,360-70 ft.; drlg. 3,435 ft.

Marland Oil Co.'s No. 1 Richardson, C NW Sec. 12, Blk. 32, T. & P. Sur., T-1-S ..... Top salt 870 ft.; drlg. 1,500 ft.
Marland Oil Co. and Zoch's No. 1 Jones, Sec. 32, Blk. 27, T. & P. Sur., elev. 2,218 ft. ..... Drlg. 1,985 ft.
Mays, Nixon & Flowers' No. 1 W. J. Flowers ..... Drlg. 300 ft.
Miley and Marland Oil Co.'s No. 1 C. D. Read, C NW Sec. 12, Blk. 31, T. & P. Sur., T-1-N ..... Spudded and shut down 5 ft.
Owens & Sloan's No. 2 Dora Roberts, SW cor. SE Sec. 136, Blk. 29 ..... Set 8-in. 1,923 ft.; standardizing.
Peer Oil Corp.'s No. 1 Read, C NW Sec. 39, Blk. 30, T. & P. Sur., T-1-N ..... Hole full salt water 2,790-2,820 ft.; drilling 3,215 ft.

Schermerhorn Oil Co.'s No. 1 Dora Roberts ..... Drlg. 1,750 ft.
Sun Oil Co.'s No. 1 W. R. Settles, Sec. 135, Blk. 29 ..... Building rig.
Texon O. & L. Co. and Marland Oil Co.'s No. 1 Mrs. Connaly, NE cor. Sec. 15, Blk. 33, T. & P. Sur., T-1-S. . Top salt 1,425 ft.; hole full salt water 1,760-1,800 ft.; show oil 3,065 ft.; hole full sulphur water 3,500-55 ft.; drlg. lime 3,887 ft.

Texon O. & L. Co. and Marland Oil Co.'s No. 2 W. R. Settles-A ..... Rig.
Vitek Oil Co.'s No. 1 H. R. Clay ..... Total depth 1,786 ft.; shot with 120 qts. at 1,630-1,786 ft.; flowed 45 bbls. and sanded up; cleaning out.

Ward Oil Co.'s No. 1 Dora Roberts ..... Drlg. 800 ft.
Weekly Oil Corp. et al's No. 1 Dora Roberts, Sec. 156, Blk. 29 ..... Building rig.

HUDSPETH COUNTY

American Land Co.'s (was Lockhart Bros.') No. 1 Gardner & Moseley, C SE Sec. 5, School Blk. 21 ..... Drlg. 1,000 ft.
Western States Oil Co.'s (was Lockhart & Co.'s) No. 1 Moore, C SE Sec. 16, Blk. 71, T. & P. Sur., T-6 ..... Shut down for casing 900 ft.
Western States Oil Co.'s No. 1 Gardner & Mosley, Sec. 12, Blk. 18 ..... Rig.

IRION COUNTY

F. E. Webb et al's No. 1 J. M. Nutt ..... Spudded and shut down.

JEFF DAVIS COUNTY

J. K. Hughes Dev. Co.'s No. 2 Means ..... Underreaming 8-in. 2,307 ft.
Humble O. & R. Co.'s No. 2 Crescencio Flores, 1,130 ft. N and 850 ft. E of SW cor. Sec. 34, Blk. 58, T. & P. Sur., Twp. 8 ..... Total depth 2,665 ft.; reamed 8-in. to 2,601 ft. to shut off water.

JONES COUNTY

Midwest Expl. Co.'s (was Campbell et al's) No. 1 L. H. Herndon, Sec. 6, M. E. P. & P. Sur., elev. 1,832 ft. ... Total depth 3,009 ft.; will shoot showings at 2,485-89 ft. and 2,558-61 ft.

Garland & Diamond's No. 1 E. D. Glynn, SE cor. Sec. 18, Deaf & Dumb Asylum Lands ..... Shut down 2,430 ft.
Gibson & Johnson's No. 1 R. J. Camp, S. M. Hale Sur. ... Hole full water 2,108-15 ft.; shut down 2,208 ft.

Hutson & Weaver's No. 1-A Smith ..... Total depth 1,980 ft. (cor.); shut down for casing.

W. G. Stough et al's No. 1 W. C. Bennett, Sec. 42, Orphan Asylum Sur. ..... Total depth 800 ft.; rigging up machine.

W. G. Stough and others' No. 1 J. P. Willis, J. C. Patterson Sur. No. 2 ..... Shut down 1,740 ft.
Swensondale Oil Co.'s No. 1 Caton, SW NW Sec. 9, Deaf & Dumb Asylum Lands ..... Show oil 3,008-20 ft.; shot 80 qts. no results; shut down 3,200 ft.

KNOX COUNTY

Deep Rock Oil Co.'s No. 1 Moore ..... Drlg. 640 ft.
Deep Rock Oil Co.'s No. 1 Big Four, 1,270 ft. S and 2,590 ft. W of NE cor. Sec. 31, Blk. 4 ..... Total depth 2,455 ft.; shut down

LOVING COUNTY

Lockhart Bros.' No. 1 fee, Sec. 85, Blk. 33, H. & T. C. Sur. ..... Location.
Owens & Sloan's No. 1 W. D. Johnson, C SE Sec. 20, Blk. 53, T-2, T. & P. Sur., elev. 2,934 ft. ..... Shut down 1,020 ft.; in litigation

LYNN COUNTY

Elpo Oil Co.'s No. 1 Nevols, NW cor. Sec. 6, Blk. C-42, School Lands ..... Shut down 630 ft.

MIDLAND COUNTY

Orbit Oil Co.'s No. 1 Moreland, C SE Sec. 17, Blk. 39, T. & P. Sur., T-1-S ..... Shut down 185 ft.
Shoup et al's No. 1 Roy Parks ..... Location.

MITCHELL COUNTY

Paul Teas et al's No. 1 A. C. Mills, NW cor. C. A. O'Keefe Sub. 11, J. P. Smith Sur. ..... Shut down for casing 260 ft.
Robert Thraves' No. 1 C. Way, Sec. 91, Blk. 27, T. & P. Sur., T-1-N ..... Total depth 2,508 ft.; shut down

NOLAN COUNTY

Herbert Oil Co.'s (was McClesky and others') No. 1 Pepper, SE cor. SW Sec. 29, Blk. 22, T. & P. Sur. ... Rigged up and shut down.
Winemiller Corp.'s (was Reiter-Foster Oil Co.'s) No. 1 T. E. Arledge, Sec. 217, Blk. 1, H. & T. C. Sur. ..... Drlg. 1,230 ft.
Zweifel and others' No. 1 Longbotham, C SE Sec. 130, Blk. 1, H. & G. N. Sur. ..... Shut down 3,575 ft.

PECOS COUNTY

George Anderson's No. 1 Sherbine Bros. ..... Drlg. 280 ft.
Cummings et al's No. 1 Blackstone & Slaughter ..... Drlg. 2,150 ft.
M. C. Dibble & Hale's No. 1 Bonebrake, Sec. 115, Blk. 8, H. & G. W. Sur., elev. 2,555 ft. ..... Shut down 640 ft.
Everett et al's No. 1 J. Fields ..... New location.
Garland & Mott's No. 1 El Paso Cattle Loan Co., C NE Sec. 26, Blk. 126, T. & S. L. Sur., elev. 3,267 ft. ..... Hole full sulphur water 2,560 ft. Total depth 3,501 ft.; plugged back to 1,465 ft. and shot 160 qts. 1,440-60 ft.; no result.

Gibson Oil Corp.'s No. 1 R. R. Russell ..... Rigging up.
George A. Henshaw et al's No. 1 B. T. Corder, C SW Sec. 74, Blk. 2, C. C. S. D. Sur. ..... Spudding.
George A. Henshaw, Jr., No. 1 Schimmel, Sec. 29, Blk. 144, T. & St. L. Sur., elev. 2,780 ft. ..... Hole full sulphur water 1,275-80 ft.; drlg. 1,905 ft.

Kershaw & Livingston's No. 1 Cannon ..... Rig.

Kirby Pet. Co. and Roxana's No. 1 W. W. Turney, NW cor. SW Sec. 11, Blk. 140, T. & St. L. Sur. ..... Hole full sulphur water 975-81 ft.; shut down 1,189 ft.

Mid-Kansas O. & G. Co.'s No. 1 Pryor & Wilson, NW cor. Sec. 3, Blk. 5, T. C. R. R. Sur. ..... Rigged up and shut down.
Moody Oil Corp.'s No. 1 B. T. Corder, C SW Sec. 77, Blk. 2, C. C. S. D. Sur. ..... Drilling 470 ft.
Olean Pet. Co.'s No. 1 G. N. Harral, C SW Sec. 82, Blk. R-3, G. C. & S. F. Sur., elev. 3,005 ft. ..... 1,200 ft. salt water 2,965-78 ft total depth 2,995 ft.; run. 8-in.

Quinby Oil Co.'s No. 1 Townsite, Sec. 1, Blk. 267, Client Addn. Sur. Fort Stockton, elev. 2,980 ft. ..... Shut down 3,440 ft
Quinby Oil Co.'s No. 2 Bennet, C NW 592, Blk. 105, G. C. & S. F. Sur., elev. 2,560 ft. ..... Shut down 1,457 ft.
Quinby Oil Co.'s No. 1 A. A. Gary, 660 ft. N and 1,320 ft. E SW cor. Sec. 593, Abst. 3,009, elev. 2,551 ft. .... Shut down 700 ft.
Red Bank Oil Co.'s No. 1 Arthur Harral ..... Drlg. 665 ft.
Robert Lee's No. 1 Joe Parker ..... Rigging up.
B. J. Spikes' No. 1 George Brown ..... Spudded and shut down.
Transcontinental Oil Co.'s No. 1 Blackston & Slaughter, Sec. 29, Blk. 129, F. St. L. Sur., elev. 3,539 ft. ..... 250 ft. sulphur water in black sand 1,150-80 ft.; small show oil 1,510 ft.; show gas 1,540 ft; show oil 2,080 ft.; brown sand 3,560-70 ft.; 250,000 ft. gas at 3,565 ft.; straightening bad hole.

World Oil Co.'s No. 1 Kloh, Sec. 47, Blk. 45, Twp. 3, T. P. R. R. Sur., elev. 2,810 ft. ..... Rigging up.
World Oil Co.'s No. 1 Serf, SW cor. NE Sec. 10, Blk. 130, T. & St. L., elev. 3,245 ft. ..... Spudded and shut down.

Yates Pool, Pecos County

(* denotes test in extension territory.)

***Allsman & Bell's No. 5 River Bed, 312 ft. N of No. 4** .... Rigging up.
***Allsman & Bell's No. 11 River Bed** ..... Cem. 850 ft.
California Co.'s No. 2 Yates, Sec. 34, Blk. 194 ..... Rig standing.
California Co.'s No. 8 Yates, Sec. 34, Blk. 194 ..... Drlg. 1,287 ft.; No. 9 bldg. rig; No. 10 rigging cellar.
California Co.'s No. 1 Smith, Lease 1 ..... Rigging up.
California Co.'s No. 4 Smith, Sec. 35, Blk. 194 ..... Run. 8-in. 1,494 ft.
California Co.'s No. 5 Smith, Sec. 35 ..... Cem. 10-in. 800 ft.
California Co.'s No. 6 Smith, Sec. 35 ..... Drlg. 200 ft.
California Co.'s No. 7 Smith, Sec. 35 ..... Drlg. 450 ft.
California Co.'s No. 8 Smith ..... Fishing tools 85 ft.
California Co.'s No. 9 Smith ..... Waiting on tools; No. 10 location.
***Day Bros. & McKnight's No. 1 Yates, NW cor. Sec. 58, Blk. 1** ..... Top salt 440 ft.; fishing 820 ft.
Douglas Oil Co.'s No. 2 J. T. Sellman ..... Building rig.
Gulf Prod. Co.'s No. 2 Smith-A, Sec. 28, Blk. 194 ..... Top pay 1,295 ft.; flowed 152 bbls. in 6 hrs.; flowed 95 bbls. per hr. 1,420-23 ft.; pinched to 10 bbls. hourly.
Gulf Prod. Co.'s No. 3 Smith-A ..... Drlg. 880 ft.
Gulf Prod. Co.'s No. 4 Smith-A ..... Drlg. 740 ft.
Gulf Prod. Co.'s No. 5 Smith-A ..... Drlg. 50 ft.
Gulf Prod. Co.'s No. 6 Smith-A ..... New location; digging cellar.
Gulf Prod. Co.'s No. 7 Smith-A ..... New location; digging cellar.
***Gulf Prod. Co.'s No. 4 Yates, Runnels Co. School Land** .. Rigging up.
Gulf Prod. Co.'s No. 5 Yates ..... Drilling 160 ft. lime.
Gulf Prod. Co.'s No. 6 Yates ..... Rigging up.
Gulf Prod. Co.'s No. 7 Yates ..... Building rig.
Humble O. & R. Co.'s No. 4 Smith-A ..... Drlg. 1,520 ft.; 600 ft. oil in hole; top pay 1,470 ft.
Humble O. & R. Co.'s No. 5 Smith-A ..... Drlg. 1,140 ft.
***Humble O. & R. Co.'s No. 1 Smith-B, Sec. 101, Blk. 194** .. Fishing 1,465 ft.
Humble Oil Co.'s No. 3 M. A. Smith-B, Sec. 101, Blk. 194 ..... Drlg. 265 ft.
Humble O. & R. Co.'s No. 1 Tippett ..... Cellar; shut down.
McMann's No. 1 J. H. Tippett, Sec. 108, Blk. 194 ..... Rigging up.
***Mazda and Savoy's No. 2 Smith, Sec. 24, Blk. 194** ..... Location.
McMan and Marland's No. 12 Yates, Sec. 34½, Blk. 194 .. Cem. 6-in. 1,240 ft.
McMan and Marland's No. 13 Yates ..... Drlg. 850 ft.
McMan and Marland's No. 14 Yates ..... Drlg. 770 ft.; No. 15 building rig; No. 16 location.
Marland Oil Co.'s No. 9 Yates-A, Sec. 60, Blk. 1 ..... Drlg. 840 ft.
Marland Oil Co.'s No. 10 Yates-A ..... Cem. 8-in. 950 ft.
Mid-Kansas and Transcontinental's No. 8 Yates-A, Sec. 33½, Blk. 194 ..... Drlg. 925 ft.
Mid-Kansas and Transcontinental's No. 10 Yates-A, Sec. 33½, Blk. 194 (N of No. 1) ..... Rigging up.
***Mid-Kansas and Transcontinental's No. 11 Yates-A, Sec. 33½, Blk. 194 (S of No. 1)** ..... Shut down 153 ft.
Mid-Kansas and Transcontinental's No. 12 Yates-A ..... Waiting on machine.
Mid-Kansas and Transcontinental's No. 13 Yates-A ..... Rigging up; waiting on machine.
Mid-Kansas and Transcontinental's No. 14 Yates-A ..... Rigging up; waiting on machine.
Mid-Kansas and Transcontinental's No. 15 Yates-A ..... Digging cellar.
Mid-Kansas and Transcontinental's No. 7 Yates-B, Sec. 61, Blk. 1 ..... Flowed 230 bbls. in 9 min. through one 4-in. line 1,132-1,268 ft.
Mid-Kansas and Transcontinental's No. 10 Yates-B, Sec. 61, Blk. 1 ..... Clearing location
Mid-Kansas and Transcontinental's No. 11 Yates-B ..... Cellar.
***Mid-Kansas and Transcontinental's No. 12 Yates-B** ..... Cellar.
Mid-Kansas and Transcontinental's No. 13 Yates-B ..... Drlg. 730 ft.
Mid-Kansas and Transcontinental's No. 14 Yates-B ..... Straightreaming 852 ft.
Mid-Kansas and Transcontinental's No. 16 Yates-B ..... Show gas 168 ft.; drlg. 1,010 ft.; show gas.
Mid-Kansas and Transcontinental's No. 17 Yates-B ..... Rigging up.
Mid-Kansas and Transcontinental's No. 18 Yates-B ..... Drlg. 140 ft.
Mid-Kansas and Transcontinental's No. 19 Yates-B ..... Location.
Mid-Kansas and Transcontinental's No. 20 Yates-B ..... Drlg. 25 ft.
Mid-Kansas and Transcontinental's No. 21 Yates-B ..... Rigging up.
Mid-Kansas and Transcontinental's No. 22 Yates-B ..... Digging cellar.
Mid-Kansas and Transcontinental's No. 23 Yates-B ..... Waiting on machine.
Mid-Kansas and Transcontinental's No. 4 Yates-C, Sec. 60, Blk. 1 ..... Drlg. 665 ft.; show oil 660-65 ft.
Mid-Kansas and Transcontinental's No. 6 Yates-C ..... Waiting on machine
Mid-Kansas and Transcontinental's No. 7 Yates-C ..... Drlg. 940 ft.
Mid-Kansas and Transcontinental's No. 8 Yates-C ..... Flowed 300 bbls. per hr. at 602 ft.; cem. between 10 and 12-in. with 300 sacks.
Mid-Kansas and Transcontinental's No. 9 Yates-C ..... Cem. 8-in. 608 ft.
Mid-Kansas and Transcontinental's No. 10 Yates-C ..... Location
Mid-Kansas and Transcontinental's No. 2 M. A. Smith .... Rigging up.
Mid-Kansas and Transcontinental's No. 2 Yates-D, SW part Sec. 62, Blk. 1 ..... Drlg. 406 ft.
Mid-Kansas and Transcontinental's No. 5 Smith-Taylor Drlg. 1,225 ft.
Mid-Kansas and Transcontinental's No. 6 Smith-Taylor Shut down for storage 1,217 ft.
Mid-Kansas and Transcontinental's No. 7 Smith-Taylor Building road.
Mid-Kansas and Transcontinental's No. 8 Smith-Taylor Clearing location.
Mid-Kansas and Transcontinental's No. 9 Smith-Taylor Clearing location.
Roxana Pet. Corp.'s No. 4 Tippett ..... Set. 8-in. 854 ft.
Roxana Pet. Corp.'s No. 5 J. H. Tippett, Sec. 102, Blk. 194 ..... Drlg. 105 ft.
Roxana Pet. Corp.'s No. 6 J. H. Tippett, Sec. 102, Blk. 194 ..... Rigging up; No. 7 rigging up.
Roxana Pet. Corp.'s No. 3 Smith, SE cor. SW Sec. 27, Blk 194 ..... Drlg. 90 ft.
Roxana Pet. Corp.'s No. 4 Smith ..... Drlg. 685 ft.
Roxana Pet. Corp.'s No. 5 M. A. Smith, Sec. 27, Blk. 194 Moving in machine.
Simms Oil Co.'s No. 4 Smith, Sec. 103, Blk. 194 ..... Drlg. 12 ft.
Simms Oil Co.'s No. 5 Smith ..... Building standard rig.
Simms Oil Co.'s No. 6 Smith ..... Rigging up machine.

PRESIDIO COUNTY

Headlock & Miller's No. 1 Toetle Est., Sec. 123, Blk. 3, D. & P. Sur., elev. 2,912 ft. ..... Salt water 2,610 ft.; total depth 3,003 ft.; shut down for orders.

Pinto Canyon Oil Co.'s No. 1 Fields, 1,760 ft S and E NW cor. Sec. 74, Blk. 2, D. & P. Sur. ..... Location.

REAGAN COUNTY

Henshaw & Camp's No. 1 University, Sec. 14, Blk. 49, University Land, elev. 2,772 ft. ..... 250 ft. sulphur water at 800 ft.; fish. pipe 2,080 ft.

Skelly Oil Co.'s No. 1 University, SW cor. Sec. 33, Blk. 8, University Land ..... Top salt 1,340 ft.; fishing 2,795 ft.
Texon O. & L. Co.'s No. 1-B University, Group 1 ..... Top pay 6,284 ft.; total depth 6,590 ft.; 3,800 ft. of 38.7 gravity oil in hole; shut down.

White et al's No. 1 Shofner & Sterling, SE cor. NW Sec. 10, 2 m. N of Big Lake ..... Drlg. 820 ft.

REEVES COUNTY

Exploration Co.'s No. 1 A. A. Kinney, 1,500 ft. W of NE cor. Sec. 26, Blk. C-18, Public School Land, elev. 2,847 ft. — Show oil 1,105-10 ft.; total depth 1,275 ft.; underreaming casing.

Grisham-Hunter Corp.'s No. 1 Rathge & Connor — Rig.

David R. Thompson's No. 1 A. A. Eddins — Drlg. 4,140 ft.

World Oil Co.'s No. 1 Biggs, C SE Sec. 65, Blk. 112, Public School Land Sur., elev. 3,068 ft. — Shut down 1,610 ft.

World Oil Co.'s No. 1 Duff, elev. 2,753 ft. — Top Delaware lime 4,185 ft.; hole full brackish salt water 4,368-4,500 ft.; plug back to 4,250 ft to shoot.

RUNNELS COUNTY

Empire G. & F. Co.'s No. 1 C. C. Clay — Drlg. 1,710 ft.

Gibson & Johnson's No. 1 Harris Est., Juliana Voske Cabrera Sur. — Location

Gibson & Johnson's No. 1 H. P. Serratt, C SE NW Sec. 150, E. T. R. R. Sur. — Rigging up.

Kennedy et al's No. 1 J. E. Tally — Shut down 1,720 ft.

May et al's No. 1 J. M. Schneider, John Wall Sur. — One-half bailer salt water 1,032 ft.; fish. casing 1,056 ft.

Miles Oil Co.'s No. 1 Charles Ray, Sec. 21, T. & N. O. Sur. — Cellar.

Miles Oil Co.'s No. 1 L. S. Lawhon, NE cor. Sec. 68 — Show gas 960-80 ft., shut down 2,250 ft.

Noble O. & G. Co.'s No. 1 Sims, Sec. 12, J. J. McHenry Sur. — Hole full sulphur water 2,710-90 ft. and hole full salt water 2,820 ft.; underreaming 6-in.; total depth 2,980 ft.

Royal Pet. Co.'s No. 1 A. C. Willingham — Building rig.

Swensondale Oil Co.'s No. 1 E. A. Werner — Shut down for 8-in. 1,850 ft.

Owenwood Oil Corp.'s No. 1 H. B. Fowler — Location

Watchorn O. & G. Co.'s No. 1 J. L. King — Drlg. 1,165 ft.

SCHLEICHER COUNTY

Beavers & Leath et al's No. 1 J. A. and W. T. Whitten, C NW Sec. 35, Blk. 11, T. O. Sur. — Shut down 400 ft.

Thomas Grey et al's No. 1 Ball Robinson, C NW Sec. 25, Blk. M, G. H. & S. A. Sur. — Sulphur water 2,125 ft.; hole full water 2,160-80 ft. and 2,935 ft total depth 3,070 ft.; setting 6-in.

SCURRY COUNTY

J. B. Mims et al's No. 1 J. J. Koonsman, Sec. 220, Blk. 2, H. & T. C. Sur. — Rig.

STERLING COUNTY

Orr et al's No. 1 Neal Reed, CNL Sec. 15, Blk. 30, W. & N. W. Sur. — Shut down 1,390 ft.; (corrected)

STONEWALL COUNTY

Peer Oil Corp. and Producers Oil Co.'s (was J. P. Johnson) No. 1 R. P. Morrow — Hole full water 2,625-90 ft.; set 10-in. 2,700 ft.; preparing to plug at 3,038 ft.

TAYLOR COUNTY

A. J. Brown et al's No. 1 Henslee, NE cor. Sec. 5, Blk. 4, S. P. R. R. Sur. — Drlg. 2,270 ft.

Dorning & Perrine's No. 1 J. A. Hammer, C N 100 acres, Sec. 23, Blk. 19, T. & P. Sur., elev. 1,904 ft. — Shut down 455 ft.

Gilbert Johnson and Day Bros.' No. 1 C. M. Brown, Sec. 1, Blk. 6, T. & P. Sur. — Fishing tools 835 ft.

Owen & Sloan's No. 1 Lattimer, Sec. 14, Blk. 9, T. & P. Sur. — Drilled out plug 2,605 ft.; may run 5-in. to shut off water.

Roeser & Pendleton's No. 1 Sam Hutman, C W half NW Sec. 64, Blk. 5, T. & P. Sur. — Water sand 2,222 ft.; total depth 2,900 ft.; underreaming 5-in.

TERRELL COUNTY

Deep Rock Oil Co.'s No. 1 H. C. Nolke, Sec. 4, Blk. A-2, T. C. R. R. Sur. — Cellar.

Humble Oil Co.'s No. 1 University, Sec. 15, Blk. 34 — Rigging up.

Milham Exploration Co.'s No. 1 Bassett, CNL Sec. 99, Blk. Y, W. H. Robertson Sur. — Drlg. 800 ft.

TERRY COUNTY

Kingsland O. & P. Co.'s No. 1 Brownsfield, C NW SW SW Sec. 7, Blk. 1-A, E. L. R. R. Sur. — Slight show gas 2,230 ft.; running 6-in. 3,207 ft.

TOM GREEN COUNTY

George Amery's No. 1 Wilkey, C SW Sec. 3, B. A. L. Sur. — Location.

Cox et al's No. 1 Llano — Total depth 470 ft.; shut down

Fitzgerald et al's No. 1 Bennett — Drilling 1,715 ft.

Marland Oil Co.'s No. 1 J. W. Johnson, C SE, Sec. 6, R. B. Sanderson Sur. — Hole full water 2,020-45 ft.; fishing bailer 2,835 ft.

Marland Oil Co.'s No. 1 J. W. Johnson-A — Drlg. 1,970 ft.

Tulsa Oil Co.'s No. 1 Adams, C SW Sec. 163, Blk. 11, S. P. R. R. Sur. — Shut down lime 1,020 ft.

UPTON COUNTY

Mark Curtis et al's (was Hultz et al's) No. 2 Giddings, 5,336 ft. S and 6,678 ft. E of NW cor. Throckmorton Co. School Land, League 1, elev. 2,757 ft — Shut down 630 ft.

Skelly Oil Co.'s No. 1 J. F. Lane, SW cor. SE SE Sec. 3, G. C. & S. F. Sur. — Top salt 569 ft.; drlg. 2,000 ft.

Southern C. O. P. Co.'s No. 1 C. W. Hobbs — Flowed sulphur water 2,340-80 ft.; drlg. 2,430 ft.

The Texas Company and Cordova Union's No. 1 Union Land, Sec. 23, Blk. 35, H. & T. C. — Top pay 2,098 ft.; swabbed 60 bbls. in 36 hrs. at 2,271 ft., 2 per cent water; completed.

Texas Pacific C. & O. Co.'s No. 11 J. F. Lane-A lease, Sec. 5 — Drlg. 1,490 ft.

Tulsa Drlg. Co.'s No. 1 W. A. Chaney, Sec. 18, Blk. 3, M. K. T. Sur. — Top salt 670 ft.; show oil 2,090 ft.; total depth 2,435 ft.; plugging back to oil show.

Wise & Jackson's No 1 J. H. Porter, SW cor. SW SW Sec. 184, Blk. E, elev. 2,592 ft. — Top pay 3,419 ft.; total depth 3,517 ft., gray lime; shut down

VAL VERDE COUNTY

A. Blume et al's No. 1 Moore Est., Sec. 183, J. Mitchell Sur., elev. 953 ft. — Shut down 3,000 ft.

Curso Williams' No. 1 Holman, NE NE Sec. 5, Blk. N, G. H. & S. A. Sur. — Shut down 2,940 ft.

East Del Rio Oil Co.'s No. 1 Russell, SE cor. Sec. 183, Del Rio Town Sur., elev. 941 ft. — Total depth 3,190 ft.; shut down

Magnolia Pet. Co.'s No. 1 Whitehead, Sec. 81, D. G. C. & S. F. Sur., elev. 1,770 ft. — Drlg. 5,450 ft.

Independent Operators' No. 1 Whitehad, SE SE Sec. 30, Blk. 4, I. & G. N. Sur., elev. 1,175 ft. — Shut down 3,900 ft.

O. O. Owens' No. 1 Mills, Sec. 128, Blk. 1, I. & G. N. Sur., elev. 2,130 ft. — Gas sand 2,491-2,520 ft.; tested 125,750 ft. gas; reset 8-in. 2,511 ft.; drlg. 3,535 ft. lime.

W. B. Thraves et al's No. 1 W. E. Wilson — Moving in material.

WARD COUNTY

Selby Oil Co. et al's No. 1 A. G. Dooley et al — Rig.

WINKLER COUNTY

Amerada Pet. Corp.'s No. 1 J. B. Walton, SW cor. NW Sec. 45, Blk. 26, elev. 2,833 ft. — Top salt 1,086 ft.; 2,500,000 ft. gas 1,700-08 ft.; killed gas with 3½ tons baroid; cored brown lime carrying oil 2,334 ft.; show gas 2,400 ft.; blew tools up in hole; fished out and drilled to 2,411 ft. where another pocket of gas again caused fishing job.

Atlantic O. P. Co.'s No. 1 Ida Hendrick, SE cor. W half NE Sec. 44, Blk. 26 — Show gas 2,770 ft.; top pay 2,830 ft.; fishing bit 2,936 ft.; flowing 166 bbls.

Atlantic O. P. Co.'s No. 1 Grisham-Hunter, Sec. 34, Blk. B-5 — Top pay 2,826 ft.; increase 2,837-43 ft.; total depth 3,008 ft.; aver. 2,208 bbls. past week, gradually increasing.

Atlantic O. P. Co.'s No. 2 Grisham-Hunter — Total depth 2,665 ft.; moving rotary back.

Atlantic O. P. Co.'s No. 3 Grisham-Hunter — Rigging rotary.

Atlantic O. P. Co.'s No. 1 Grisham-Hunter-C (was Lemar) — Drlg. 2,370 ft.

Atlantic O. P. Co.'s No. 1 Ida Hendrick-D — Drlg. 2,700 ft.

Atlantic O. P. Co.'s No. 2 Ida Hendrick-D — Drlg. 2,185 ft.

Atlantic O. P. Co.'s No. 1 Grisham-Hunter-E — Total depth 2,274 ft.; cem. 8-in. standing.

Atlantic O. P. Co. and Collett's No. 1 Ida Hendrick-F — Rigging up rotary.

V. T. Bolin et al's No. 1 Brown — Spudded and shut down.

Magnolia Pet. Co.'s (was G. M. Church et al's) No. 1 Ida Hendrick, Sec. 29, Blk. B-5 — Flowed 3,300 bbls. 2,830-2,917 ft.; top first pay 2,713 ft.

Magnolia Pet. Co.'s (was G. M. Church et al's) No. 2 Ida Hendrick — Show oil 2,750 ft.

Magnolia Pet. Co.'s No. 3 Ida Hendrick — Cem. 8-in. 2,425 ft.

Cranfill Bros. and California Co.'s No. 1 M. J. Bashara, at cor. Secs. 10, 11, 22 and 23, School Blk. 77 — Total depth 3,500 ft. (cor.); shut down for orders.

Cranfill & Reynold's No. 1 Grisham-Hunter-B, Sec. 35, Blk. B-5 — Total depth 2,359 ft.; standardizing.

Cranfill & Reynold's No. 1 Hendrick-C — Rigging rotary.

Eastland Oil Co. and Arnold's No. 1, Sec. 35, Blk. B-5 — First gas 2,492 ft.; 7,000,000 ft. at 2,512 ft.; shut down 2,536 ft.

Gulf Prod. Co.'s No. 5 T. G. Hendrick — Show oil 2,635-40 ft.; 25,000,000 ft. gas 2,779 ft.; drlg. 2,806 ft.

Gulf Prod. Co.'s No. 8 T. G. Hendrick, Sec. 34 — Moving in rig.

Gulf Prod. No. 9 T. G. Hendrick — Moving in rig.

Humble O. & R. Co.'s No. 1 T. G. Hendrick, NW cor. NE Sec. 34, Blk. B-5, Public School Land, elev. 2,816 ft. — Total depth 2,763 ft.; fished out one bit; gas which had been killed broke loose again; trying to drill by tools 2,743 ft.

Humble O. & R. Co.'s No. 3 Hendrick, Sec. 34, Blk. B-5 — 5,000,000 ft. gas from 2,194 ft.; drlg. 2,420 ft.

Humble O. & R. Co.'s No. 5 Grisham-Hunter — Building rig.

Humble O. & R. Co.'s No. 2 Ida Hendrick-B — Rig on ground

Humble O. & R. Co.'s No. 3 Ida Hendrick-B — Total depth 2,846 ft.; cem. 8-in.

Independent O. & G. Co.'s No. 1 J. S. Howe-D, NE cor. W half SE Sec. 44, Blk. 26 — Top pay 2,846 ft.; shut down for storage 3,043 ft.; swabbed 100 bbls.

Independent O. & G. Co.'s No. 2 Hendricks-A, elev. 2,822 ft. — Top pay and total depth 2,815 ft.; aver. 1,436 bbls. past week; tools in hole.

Independent O. & G. Co.'s No. 1 Vardeman-B — Drlg. 1,450 ft.

Independent O. & G. Co.'s No. 2 Vardeman-B — Cellar.

Liner Drlg. Co.'s No. 1 Seth-Campbell, NE cor. Sec. 2, Blk B-5 — Shut down 450 ft.

Landreth Prod. Corp.'s No. 1 Hendrick-A, SE cor. SW Sec. 29, Blk. B-5 — Total depth 3,013 ft.; aver. 36 bbls. daily past week; cleaning out to deepen.

Landreth and Roxana's No. 2 Ida Hendrick-A, Sec. 29, Blk. B-5 — Part rigged and shut down.

Landreth and Roxana's No. 3 Ida Hendrick-A, Sec. 29, Blk. B-5 — Rigging up rotary.

Landreth and Roxana's No. 4 Ida Hendrick-A — 1,000,000 ft. gas 2,790-93 ft.; top pay 2,930 ft.; fishing bit 2,950 ft.; flowed 2,944 bbls.; aver. 2,910 bbls. first 3 days; will deepen.

Murchison Oil Co. et al's (was Marland Oil Co.'s) No. 1 Grisham-Hunter-B — Location.

Murchison Oil Co. et al's (was Marland Oil Co.'s) No. 2 Grisham-Hunter-B (formerly No. 3-B) — Aver. 436 bbls. 2,890-3,050 ft.; cleaning out to shoot.

Murchison Oil Co. et al's (was Marland Oil Co.'s) No. 3 Grisham-Hunter-B (formerly No. 2-B) — Showing oil 2,630 ft.; total depth 2,427 ft.; tore down standard rig; standing cemented.

Murchison Oil Co. et al's (was Marland Oil Co.'s) No. 4 Grisham-Hunter-B — Drlg. 2,820 ft.

Mining & Engineering Co.'s No. 1 T. G. Hendrick, Sec. 10, Blk. B-12 — Partly rigged up and shut down.

Murchison Oil Co. and Cranfill Bros.' No. 2 Grisham-Hunter — Location.

Murchison Oil Co. and Cranfill Bros.' No. 4 Grisham-Hunter — Location.

Pure Oil Co.'s No. 2 Hendrick, elev. 2,827 — Top salt 1,518 ft.; top lime 2,380 ft.; spraying oil with 15,000,000 ft. gas 2,657-2,825 ft.; rig burned; tools in hole.

Pure Oil Co.'s No. 3 Hendrick, NE cor. SW Sec. 41, Blk. B-5 — Standardizing 2,360 ft.

Pure Oil Co.'s No. 1 Hendrick-B, NE cor. SE Sec. 34, Blk. B-5 — Show gas 2,350-60 ft.; show oil 2,380 ft.; 15,000,000 ft. gas at 2,490 ft.; more gas 2,564 ft. 40,000,000 ft. gas at 2,720 ft.; spraying little oil 2,708 ft.; rigging up rotary.

Pure Oil Co.'s No. 2 Hendrick-B — Top lime 2,387 ft.; standardized 2,387 ft.; drlg. 2,610 ft.

Pure Oil Co.'s No. 3 Hendrick-B — Cem. 8-in. 2,438 ft.; 4,000,000 ft. gas 2,600 ft.; drlg. 2,610 ft.

Pure Oil Co.'s No. 4 Hendrick-B — Location.

Republic Prod. Co.'s No. 1 Grisham-Hunter-A, NW cor. E half SW Sec. 45, School Block 26 — Top lime 2,440 ft.; 15,000,000 ft. gas at 2,775 ft.; top pay 2,800 ft.; flowing 165 bbls.; drlg. at 2,812 ft.

Republic Prod. Co.'s No. 1-A Grisham-Hunter-B, SW cor. E half SE Sec. 41, Blk. B-5 — Drlg. plug. 2,288 ft.

Republic Prod. Co.'s No. 2 Grisham-Hunter-B — Drlg. 2,310 ft.

Roxana Pet. Corp.'s No. 1 Grisham-Hunter-A, SW cor. E half NW Sec. 46, School Blk. 26 — Top lime 2,428 ft.; little gas; show oil and gas 2,570 ft.; increase gas at 2,597 ft.; spraying oil 2,760-65 ft.; 65,000,000 ft. gas 2,800-01 ft.; blew tools up in hole; gas broke gauge at 59,500,000 ft.; started spraying little oil Nov. 21; to drill deeper.

Roxana Pet. Corp.'s No. 1 Grisham-Hunter-B, SW cor. S half SE Sec. 29, Blk. B-5 — Top lime 2,657 ft.; show oil and gas 2,630 ft.; fishing bailer 3,010 ft.

Roxana Pet. Corp.'s No. 2 Grisham-Hunter-C, SE cor. N half NW Sec. 29, Blk. B-5 — Drlg. 400 ft.

Roxana Pet. Corp.'s No. 3 Grisham-Hunter-C — Rigging rotary.

Roxana Pet. Corp.'s No. 4 Grisham-Hunter-C — Building derrick.

Roxana Pet. Corp.'s No. 5 Grisham-Hunter-C — Digging cellar.

Roxana Pet. Corp.'s No. 1 Grisham-Hunter-D, SW cor. S half NE Sec. 41, Blk. B-5 — Drlg. 2,510 ft.; show oil and gas 2,504 ft.

Roxana Pet. Corp.'s No. 2 Grisham-Hunter-D — Location.

Sheldon & Burden's No. 1 Ida Hendrick, SW cor. SE Sec. 28, Blk. B-5 (10-a. tract) — Top salt 1,260 ft.; drlg. lime 2,715 ft. (corrected.)

Southern C. O. P. Co.'s No. 2 Ida Hendrick T-88-B — Total depth 2,659 ft.; cem. 6-in. in lime; stand. cem.

Southern C. O. P. Co.'s No. 1 T-89 Grisham-Hunter-A, CWL NE SW Sec. 35, Blk. B-5, elev. 2,816 ft. — Top salt, 1,219 ft; top lime, 2,298 ft.; 10,000,000 ft. gas 2,473-75 ft.; 3,000,000-ft. increase at 2,485 ft.; spraying oil from 2,665 ft.; shot 300 qts. 2,480-2,685 ft. to shoot bit loose; flowed 50 bbls. with 30,000,000 ft. gas.

Southern C. O. P. Co.'s No. 2 T-89 Grisham-Hunter-A, Sec. 35, Blk. B-5 — Standardizing 2,301 ft.

Southern C. O. P. Co.'s No. 3 T-89-A Grisham-Hunter-A — Drlg. 2,355 ft.

Southern C. O. P. Co.'s No. 4 T-89-A Grisham-Hunter-A — Rigging up rotary.

Texon O. & L. Co.'s No. 1 Grisham-Hunter-A, SW cor. SE Sec. 41, Blk. B-5 — Drlg. 2,860 ft.; flowed aver. 1,305 bbls. past week; increase at 2,829 ft.

Texon O. & L. Co.'s No. 2 Grisham-Hunter-A	5,000,000 ft. gas 2,260-2,500 ft.; 15,000,000 ft. gas 2,646-56 ft.; total depth 2,725 ft.; killing gas to fish tools.
Texon O. & L. Co.'s No. 3 Grisham-Hunter-A, NW cor. W half SE Sec. 41, Blk. 7-6	Cem. 8-in. 2,140 ft.; standardizing.
Texon O. & L. Co.'s No. 1 Grisham-Hunter-B, NW cor. W half SW Sec. 45, School Blk. 26	Drlg. 1,575 ft.
Texon O. & L. Co.'s No. 2 Grisham-Hunter-B	Drlg. 2,100 ft.
White Eagle O. & R. Co.'s (was Gibson & Johnson's) No. 1 P. A. Lock, 1,320 ft. W of NE cor. Sec. 30, Blk. 74, NW of discovery well, elev. 2,830 ft.	Total depth 3,260 ft.; tools and bailer in hole; drlg. out cement.
Southern C. O. P. Co.'s No. 1 Ida Hendrick 3-T-67-A, C SW NW NE Sec. 4, Blk. B-12, elev. 2,784 ft.	Top lime 2,638 ft.; slight show oil 3,000-08 ft.; filled up 1,500 ft. sulphur water at 3,065-72 ft.; plugged back to 3,050 ft. but did not shut off water; waiting orders.
Southern C. O. P. Co.'s No. 2 Ida Hendrick 3-T-67-A	Standing cemented 2,646 ft.; tore down rotary.
Magnolia Pet. Co.'s No. 4 Ida Hendrick	Drlg. 850 ft.
Magnolia Pet. Co.'s No. 5 Ida Hendrick	Rigging up rotary.
Southern Crude O. P. Co.'s No. 2 T-67 Ida Hendrick-F	New location.
Southern Crude O. P. Co.'s No. 3 T-67 Ida Hendrick-F	New location.
Southern Crude O. P. Co.'s No. 4 T-67 Ida Hendrick-F	New location.
Southern Crude O. P. Co.'s No. 5 T-67 Ida Hendrick-C	Rigging up rotary.
Independent O. & G. Co.'s No. 3 Grisham-Hunter	Location.
Independent O. & G. Co.'s No. 4 Grisham-Hunter	Location.
Independent O. & G. Co.'s No. 5 Grisham-Hunter	Building rig.
Independent O. & G. Co.'s No. 6 Grisham-Hunter	Building rig.
Independent O. & G. Co.'s No. 7 Grisham-Hunter	Building rig.
Independent O. & G. Co.'s No. 8 Grisham-Hunter	Building rig.
Southern C. O. P. Co.'s No. 1 T-67 Hendrick-B, NE cor. SE Sec. 24, Blk. 26	Top salt 2,210 ft.; top lime 2,645 ft.; total depth 2,648 ft.; rigged tools and shut down.
Southern C. O. P. Co.'s No. 1 Hendrick 3-T-68-A, SW cor. W half NW Sec. 25, Blk. B-5	Top salt 1,365 ft.; top lime 2,39[illegible] ft.; top pay 2,440 ft.; shut down 2,740 ft.; no production; tools bridged hole.
Southern C. O. P. Co.'s No. 2 Hendrick 3-T-68-A	Standardized 2,288 ft. and shut down.
Southern C. O. P. Co.'s No. 3 Hendrick 3-T-68-A	Drlg. 2,160 ft.
Southern C. O. P. Co.'s No. 1 T-88 Ida Hendrick-C, NW cor. Sec. 28, Blk. B-5	6,000,000 ft. gas 2,665 ft.; trying to drill by tools.
Southern C. O. P. Co.'s No. 2 T-88 Hendrick-C, Sec. 28, Blk. B-5	Cem. 6-in. 2,435 ft.; drlg. 2,660 ft.
Southern C. O. P. Co.'s No. 3 Ida Hendrick, T-88-C	Drlg. 2,650 ft.
Southern C. O. P. Co.'s No. 4 Ida Hendrick, T-88-C	Cem. 6-in. 2,586 ft. and shut down.
Southern C. O. P. Co.'s No. 5 Ida Hendrick, T-88-C	Drlg. 2,460 ft.
Southern C. O. P. Co.'s No. 6 Ida Hendrick, T-88-C	Drlg. 2,528 ft.
Southern C. O. P. Co.'s No. 7 Ida Hendrick, T-88-C	Standardizing 2,435 ft.
Turman & Maxwell's No. 1 Ida Hendrick	Shut down for tankage 2,879 ft.; flows about 70 bbls. and 5,000,000 ft. gas.
Turman & Maxwell's No. 2 Ida Hendrick	Drlg. 2,750 ft.
Turman & Maxwell's No. 3 Ida Hendrick, E half NE Sec. 29, Blk. B-5	Drlg. 2,600 ft.
Southern C. O. P. Co.'s No. 1 Ida Hendrick, T-88-G, SW SE Sec. 28, Blk. B-5	Location; moved material away.
Southern C. O. P. Co.'s No. 1 Ida Hendrick, T-88-I, SE cor. E half NE Sec. 30, Blk. B-5	Drlg. 450 ft.
Southern C. O. P. Co.'s No. 1 E. G. Hutchings, T-90, NE cor. E half SE Sec. 47, Blk. 26	Derrick.

INSTITUTE DOES MUCH CONSTRUCTIVE WORK

(Continued from Page 33)

states in which natural gas is being unnecessarily wasted."

The Board decided to continue the Marland Committee. Charles E. Hughes, former Chief Justice of the United States Supreme Court, is counsel for this committee.

Officers Selected

Feeling that so much constructive work had been inaugurated during the past

E. W. Clark

year under the administration of E. W. Clark as president, the Board of Directors drafted Mr. Clark for a second term and elected the following officers for the ensuing year: E. W. Clark, vice president of Union Oil Co. of California, Los Angeles, president (re-elected); A. J. Byles, president Tide Water Associated Oil Co., vice president representing manufacturing; A. C. Macbeth, Southern California Gas Co., vice president representing production; F. B. Fretter, president, National Refining Co., vice president representing distribution; and Amos L. Beatty, chairman of the board, The Texas Company, treasurer.

The following executive committee was elected: The above three vice presidents and the last retiring president, W. S. Farish, president, Humble Oil & Refining Co.; George S. Davison, Gulf Oil Corporation; George H. Jones, Standard Oil Co. of New Jersey; H. L. Doherty, H. L. Doherty & Co.; J. Howard Pew, Sun Oil Co.; Robert W. Stewart, Standard Oil Co. of Indiana, and E. W. Marland, Marland Oil Co.

The committee appointed to investigate the matter of more uses for petroleum is composed of D. E. Buchanan, chairman; Henry M. Dawes, Axtell J. Byles, Amos L. Beaty and J. Howard Pew. That which will make a co-operative survey of marketing conditions is composed of P. M. Miskell, chairman; L. V. Nicholas, H. B. Earhart, H. R. Gallagher and Henry M. Dawes.

A summary of the report of the subcommittee of the Marland Committee to the Marland Committee, follows:

"The data show conclusively that the conservation and efficient utilization of gas are of paramount importance in the conservation and economical production of oil. Gas dissolved in oil makes the oil more fluid, and more capable of movement through the pore spaces of the reservoir rock to the well; the energy stored in the same gas is the chief force behind that movement. The more gas the easier the oil moves and the greater force available to move it. To dissipate gas from an oil sand is to lessen the propulsive force and increase the need for it. The energy and solution values of oil-field gas are of tremendous importance. The proper utilization of gas results in greater and more orderly oil recovery at lower cost.

"The data show that the way to use gas to the best advantage is to use it in its original state, and that the conditions in a sand, once destroyed, can never be completely restored; but they show also that the injection of gases into many fields has had highly beneficial effects.

"The data show that many methods are of value in conserving gas and utilizing it efficiently, that the effectiveness of each method varies in different fields and with different wells, and that no single method or group of methods can be universally applied. Each well should be studied as an individual problem and to it should be applied the combination of methods found to give the best results.

"The data show finally that many, probably most, of the best methods for gas utilization can be practiced advantageously only when they can be applied systematically to a whole field; that competitive drilling in individual fields almost inevitably leads to gas waste and lessened ultimate oil production; and that either complete co-operation or unit operation is the ideal operating condition for the conservation of both gas and oil."

The Board of Directors adopted a memorial eulogizing the late J. C. Donnell and expressing their sympathy and good wishes to "the son of our friend," Otto D. Donnell, and to his associates.

NORTH AND WEST TEXAS

(Continued from Page 39)

Tippett	3	1,380
Totals, Roxana Pet. Corp.	5	1,547
Simms Oil Co.:		
Smith	3	5,196
Texon O. & L. Co.:		
Yates	1	0
Totals, Pecos County	81	47,031
Average per well		581
Winkler County		
Atlantic O. P. Co.:		
Ida Hendrick	1	166
Grisham-Hunter	1	•2,208
Totals, Atlantic O. P. Co.	2	2,374
Cranfill & Reynolds:		
Ida Hendrick	2	7,080
Gulf Prod. Co.:		
Hendrick	6	5,955
Humble O. & R. Co.:		
Grisham-Hunter	1	1,860
Ida Hendrick	1	3,185
Totals, Humble O. & R. Co.	2	5,045
Independent O. & G. Co.:		
Hendrick	1	14
Hendrick-A	2	•3,386
Totals, Independent O. & G. Co.	3	3,400
Landreth & Roxana:		
Hendrick	2	•3,638
Hendrick-A	2	•2,717
Totals, Landreth & Roxana	4	6,355
Murchison Oil & Cranfill Bros.:		
Hendrick	2	532
Grisham-Hunter-B	1	436
Grisham-Hunter-C	1	185
Totals, Murchison O. & Cranfill	4	•1,153
Pure Oil Co.:		
Grisham-Hunter	1	•485
Roxana Pet. Corp.:		
Ida Hendrick-C	1	5,707
Grisham-Hunter-A	1	14
Totals, Roxana Pet. Corp.	2	5,721
Southern Crude O. P. Co.:		
T-67 Hendrick-A	1	289
T-67 Hendrick-C	4	2,738
T-67 Hendrick-F	1	1,218
3-T-67 Hendrick-A	1	off
T-88 Hendrick-B	1	5,070
T-89 Hendrick-A	1	43
Totals, Southern Crude O. P.	9	9,358
Magnolia Pet. Co.:		
Ida Hendrick	1	2,010
Texon O. & L. Co.:		
Grisham-Hunter-A	1	1,305
Turman & Maxwell:		
Ida Hendrick	1	70
Totals, Hendrick Pool	38	50,311
Roxana Pet. Co. & Llano:		
Scarborough	1	20
Grand totals, Winkler County	39	50,331

DETERMINING COST OF REFINING CRUDES

(Continued from Page 141)

if the object in finding the cost was for the purpose of ascertaining a fair market price of a particular product, but loses force when used for distributing costs for other purposes. As the value of any product increases it is properly chargeable with a greater proportion of the cost of the raw material and vice versa.

The by-product method assumes that some selected product or products shall bear all manufacturing expenses, overhead, depreciation, and a return upon the investment, being credited with the amount realized from the sale of the so-called by-products, and that such by-products are produced and sold without profit. This method affords a simple basis for determining costs if the object is to ascertain a fair market price for a particular product, without regard to the market value of other products, but does not offer a basis for the distribution of costs to all products.

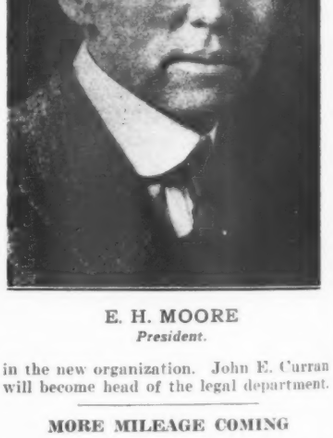
INDEPENDENT BUYS PHILMACK OIL CO.

(Continued from Page 30)

Gas Co. in the Kennedy Building, Tulsa, although Mr. Phillips will retain his per-

WAITE PHILLIPS
Chairman of the Board.

sonal offices in the Atlas Building. Gillette Hill will fill the position as head of the land department and A. I. Levorsen, who has been chief geologist of the Philmack, will retain the same position



E. H. MOORE
President.

in the new organization. John E. Curran will become head of the legal department.

MORE MILEAGE COMING

There is enough energy in a gallon of gasoline which, if converted 100 per cent to mechanical power, would propel a Ford automobile 440 miles. But I believe the average today is less than 15 miles; in other words, the conversion factor is about 3½ per cent. So that, in doubling the miles per gallon, we are only thinking of utilizing something like 7 or 8 per cent of the total potential energy of the gallon.—C. F. Kettering, general manager, Research Division, General Motors Corp.

California May Reach 700,000 Barrels

Believed Likely to Start New Year With Around 635,000 Bbls. and Go to 675,000. Potential Production Summary

By L. P. Stockman

LOS ANGELES, Calif., Dec. 10.—The crude oil situation in California has the boys guessing again as to just what the future holds in store, particularly from a production standpoint, as a surplus or scarcity of crude will exert an appreciable effect on refining operations and tanker shipments during the next 12 months. California has reached the last low point for this year and daily production from now on will be definitely upward due primarily to deep sand drilling in the Long Beach Field.

California will probably start off the new year with a daily output of somewhere around 635,000 bbls. There is a wide divergence of opinion at present as to how high California's daily production will go in 1928 but it will not be surprising if it tops 675,000 bbls. or even reaches the 700,000-bbl. mark for a short flush period. The high to be established next year depends almost entirely upon the productivity of the deep sand at Long Beach and the rapidity with which work is carried to completion in the recently discovered Seacliff and Potrero fields. It is absolutely impossible to predicate future production with any degree of accuracy for more than six months in advance because of the variable factors involved in a prognostication of this kind. Very few operators are in accord with respect to future possibilities. The time element is equally as important as the high point to be established next year and in this connection it would not be amiss to digress for a moment and say that recent developments have cast a somewhat different angle on the situation than preliminary estimates indicated.

Major Changes

The first change in the picture came when operators concluded that it would be far more advantageous to drill new holes instead of taking former upper zone producers off production and carrying them down to the lower sand. The advantage of this procedure is quite obvious for the large concerns would not suffer any cut in crude oil production during the interim. This does not mean of course that there are no wells being deepened for such is not the case as a recent check showed a total of 68 former upper sand producers and 105 new wells headed down to the lower pay. Another major change took place shortly after the deep sand exploitation campaign got under way and this will no doubt come as a surprise to many for instead of these new wells requiring from five to six months from spud to completion many of them will be completed in about four months as only two strings of pipe are being landed. This is a very important factor as it has a direct bearing on future production early in 1928. In other words Long Beach will reach its 1928 peak sooner than anticipated and it is needless to say it will exert an appreciable effect on state production especially if Seacliff starts off with a bang after the holidays. As the picture looks at present Long Beach will go over the top along about April or May. The big parade therefore will start shortly after the first of the year with Long Beach and Seacliff showing increased production.

Long Beach 150,000 Bbls.

There seems to be a general feeling on the part of many that Long Beach is already shot and that it will never go as high as anticipated. This sudden change of opinion is due to the fact that there have been several small deep sand wells finished in that field during the past few weeks. Long Beach daily production will at least approximate the estimate of 150,000 bbls. made several weeks ago, and there is an excellent chance that this remarkable old field may reach the 200,000-bbl. mark if drilling operations continue unhampered. There is a wide diversity of opinion as to how high Long Beach will go and this condition has resulted in a rather peculiar situation. Independent refiners have for some time been offering cash premiums for crude oil on term contracts while the major companies are sitting back on the assumption that crude will be a lot freer next year. These two positions are diametrically opposed to each other and if Long Beach responds to deep sand drilling by showing a substantial increase in production some independents may later find themselves paying a premium on crude which might otherwise be obtained in the open market at a somewhat lower figure. In other words independents should go slow on commitments as every indication points to surplus of oil during the early part of next year.

Natural gasoline plant operators are also bidding high for contracts, some even going so far as to spot operators rigs or partial drilling equipment as a bonus for natural gas contracts. It might be of interest in this connection to mention that natural gas from the deep zone has a rather high natural gasoline content running in several instances to better than 4 gallons per 1,000 feet. It is problematical, however, whether the average will continue as favorable when more wells begin drawing on the lower strata. The completion of a number of small wells such as has occurred at Long Beach recently would ordinarily be considered a preliminary indication of depletion but in this instance every unsatisfactory well was finished under a handicap. In one case the oil string was landed too high and in another the use of heavy mud is believed to have walled off the formation. Pipe frozen several hundred feet off bottom resulting in the necessity of utilizing 3-inch was also a contributing factor in the small production secured in several new wells. There is no questioning the fact that the initial production of new wells will get smaller as time goes no and operators can not all expect to get large flowing producers. The average initial daily production of new wells at Long Beach during the next three months will run somewhere around 1,500 bbls. each although it must be remembered that no one has actually drilled into bottom water and deeper drilling may prove more prolific than recent operations have indicated.

Seacliff's Possibilities

It looked for a time as though Seacliff did not choose to be a prominent factor in the production situation during the early part of 1928 but the Pan American removed all doubt by recompleting the discovery well on December 7 as a 1,000-bbl. producer after plugging back from 3,220 feet to 2,715 feet. The most encouraging feature in connection with the recompletion of this well is that, in contrast with the preliminary flow test made a month or so ago, clean production is now being secured. The importance of this lies in the fact that Seacliff will enter the picture in a concrete way during the coming year and with 15 drilling projects actually under way at present this field will begin showing increasing production shortly after the holidays. The securing of clean commercial production by the Pan American will also have a very stimulating effect on new work as there has been a rather marked tendency to mark time until the field was actually proven up for clean oil. In other words, operators were not going to pull another Potrero where 14 rigs were erected before a single drop of oil had been produced only to find it necessary to pull up stakes later when subsequent drilling proved these derricks to be outside the probable productive limits.

The maximum production to be attained by Seacliff during the coming year depends to some extent upon whether drilling will be permitted out in the open ocean on tideland permits granted by the State of California as a part of this field extends out beyond the high tide line. Several drilling permits have actually been granted but there is a possibility that work may be held up because of litigation resulting from a concerted movement on foot to prevent drilling out in the ocean due to the possibility of contaminating the water. The State Supreme Court will pass judgment on this phase of the subject during the early part of next year. Seacliff will not be bothered by a town lot area but irregular property lines on the land side will result in more than a normal amount of work due to offsetting requirements where in some instances one well will result in the drilling of six offsets. There is no subdivided area in this field to cause operators any trouble but on the other hand there is a definite tendency to spot wells very close together along the ocean front, the result being practically the same as though a town lot section actually existed. It is needless to say that this condition will result in rapid development and, if future completions come in as good or better than the discovery well, Seacliff may be doing 25,000 bbls. per day within six months. This figure is predicated on the possibilities of the upper or State zone.

Deep Test Likely

The deep projected Hobson sand, it is believed, will be the real productive horizon and if the lower zone is highly prolific this field may be doing in excess of 50,000 bbls. per day before the close of 1928. A deep test will probably be put down next year, the exact time depending upon the decline shown by the present proven horizon. The completion of one deep well along the ocean front will result in the simultaneous deepening of at least 20 other projects due to offsetting conditions. No one seems to have given any considerable thought to the possibility of deeper drilling but it looks like a hot tip. There is ample justification to believe that a deep productive sand will ultimately be found, the most concrete proof being that the Chanslor Canfield Midway Oil Co. has encountered two separate zones in the extreme eastern part of the field. Another favorable factor is found by comparison with other major fields, practically all of which have at least two productive horizons. It seems logical to suppose that Seacliff will sport two separate and distinct sands and if conditions are anything like Ventura Avenue the lower will be by far the most important.

The Potrero Field which lies between the Rosecrans and Inglewood fields in southern California is another district which will affect total state production during 1928 and while the productive area appears to be rather limited in scope subsequent work may change the present outlook. The Associated has just recompleted No. 1 Cypress, the discovery well at Potrero, after deepening it to 5,408 feet and it is doing 500 bbls. of 28.9 gravity oil daily. The importance of this recompletion lies in the fact that two separate producing horizons have actually been proven up, the outcome justifying Joseph Jensen and Glenn Robertson's judgment that commercial production might be anticipated at this point. The Associated paid out several hundred thousand dollars on their advice before location was even staked. If Associated holds the greater part of the potential acreage production during 1928 will be retarded but if on the other hand adjoining leases are productive the daily output will be larger than anticipated.

Potrero Geology

Geologically the Petrero district is split by a secondary fracture which has an important bearing upon its future possibilities. Four or more of these secondary fractures occur along the Newport-Beverly fault zone. Some of these secondary fractures such as those of Inglewood, Potrero, Reservoir Hill, etc., are confused by some with the Newport-Beverly zone as a whole, whereas they are in reality only short component parts which strike at a slight angle to the line of maximum sheering. The Potrero fracture cuts across the Potrero district much as the Inglewood fracture cuts the Inglewood Field. It apparently divides the Potrero district into two parts, the larger portion of perhaps two-thirds (upthrown) occurring northeast of the fracture, and perhaps one-third (downthrown) southwest of it. The town lot area, where several dry holes were drilled early this year, is northeast of the fault whose surface manifestation occurs a few hundred feet southwest of the Associated's No. 1 Cypress. The Potrero district, a faulted structure, is one of nine almost evenly spaced areas occurring along the Newport-Beverly fault zone, all of which are now productive.

The above fields, Long Beach, Seacliff and Potrero are the only ones in the ascendancy at present, although there are one or two others which are expected to show minor increases. Kern River and Ventura Avenue, due to additional drilling, should also register varying gains during the next several months but neither is expected to show any very great change from present production. On the other side of the ledger we have Huntington and Seal Beach which should continue declining, although a resumption of drilling in the older section of the latter field, where the Marland, Associated and Standard hold productive acreage, may arrest the anticipated decline resulting from decreased drilling in the town lot area. Wildcat acreage is not expected to cause any trouble during the first half of 1928 but there are several promising areas under development which may result in the opening up of another new field or two during the next 12 months.

SHUTDOWN AT SEMINOLE LIKELY TO BE CONTINUED

The Seminole operators' advisory committee held a conference in Tulsa on Monday of this week, at which plans for the continuation of the present shut shown agreement were laid. The plans will be discussed at a meeting to be held later in the week.

Umpire Collins reported at the conference that the situation, while well in hand, at this time holds dangerous possibilities unless assurance of future cooperation by the owners of leases close to the newly discovered regions are forthcoming. He pointed out that there are now five spots around the Seminole Field which could throw a good quantity of crude upon the market should a heavy drilling campaign be undertaken, and stated that while the danger had been minimized, the building of a few rigs would do much to upset the present situation.

The consensus of opinion of the committee was that all lease owners who had been consulted were heartily in favor of continuing the present situation, and the majority of Seminole operators were reported to be in favor of extending the current plan of operations which expires January 1, 1928.

HIGH PRICES PAID FOR LEASES EAST OF BURBANK

(Continued from Page 32)

Tr. No.	Description	Acreage	Bonus	Purchaser
28	NW 9-21-9	160	4,200	The Texas Company.
29	NE 28-21-9	160	1,700	Winona Oil Co.
30	NW 28-21-9	160	1,700	Winona Oil Co.
31	NE 35-21-9	160	550	Smith and McCray.
32	NW 25-22-9	160	250	Peters and Prod. & Ref.
33	NE 26-22-9	160	100	Peters and Prod. & Ref.
34	SW 12-23-9	160	700	A. G. Oliphant.
35	NW 15-23-9	160	2,100	White Eagle Oil & Refining Co.
36	SE 26-23-9	160	700	B. F. Millard.
37	SW 26-23-9	160	700	B. F. Millard.
38	SW 30-23-9	160	100	L. O. Fink.
39	NE 32-23-9	160	100	A. M. Barbour.
40	SE 9-25-9	160	600	Smith-Leahy.
41	SE 34-25-9	160	1,500	Link Oil Co.
42	SE 8-26-9	160	400	Plains Petroleum Co.
43	SW 8-26-9	160	500	Peters and Prod. & Ref.
44	SW 16-26-9	160	100	Smith and McCray.
45	NW 21-26-9	160	100	Smith and McCray.
48	SW 26-28-9	160	100	Plains Petroleum Co.
49	SW 27-28-9	160	200	Plains Petroleum Co.
50	NE 28-28-9	160	400	Peters and Prod. & Ref.
51	SW 11-21-8	160	700	B. F. Millard.
52	NW 14-21-8	160	1,700	Pueblo P. Co. and Prod. & Ref.
53	NE 17-22-8	160	800	Peters and Prod. & Ref.
54	NW 17-22-8	160	3,100	Prairie Oil & Gas Co.
55	SW 26-22-8	160	1,500	C. E. Roth.
56	NW 35-22-8	160	3,100	Skelly Oil Co. and Ohio Oil Co. and Morris estate.
57	NE 19-23-8	160	300	J. A. Davis.
58	SE 19-23-8	160	200	James B. Bragassa.
61	NW 1-24-8	160	1,300	The Texas Co.
62	SW 1-24-8	160	1,000	White Eagle Oil & Ref. Co.
63	NE 9-24-8	160	300	Plains Petroleum Co.
64	NW 9-24-8	160	100	Plains Petroleum Co.
65	NE 30-24-8	160	500	B. F. Millard.
66	SE 14-25-8	160	100	Plains Petroleum Co.
67	NE 17-25-8	160	1,600	A. G. Oliphant.
68	NW 17-25-8	160	1,300	Prairie Oil & Gas Co.
69	SW 23-25-8	160	2,000	The Texas Company.
	Acreage east side	11,040	$56,159	Total east side.
	West of Range 8			
70	NE 2-25-7	160	$1,900	The Texas Company.
71	NW 2-25-7	160	1,700	Comar Oil Co.
72	SE 2-25-7	160	1,800	Peters and Prod. & Ref.
73	SW 2-25-7	160	1,800	The Texas Company.
74	NE 4-26-7	160	1,300	New England Oil & P. L. Co.
75	NW 4-26-7	160	800	Plains Petroleum Co.
76	SE 4-26-7	160	500	Empire Oil & Ref. Co.
77	SW 4-26-7	160	300	Peters and Prod. & Ref.
78	SE 12-26-7	160	5,100	Prairie and C. E. Roth.
79	NE 13-26-7	160	5,000	Prairie Oil & Gas Co.
80	NW 13-26-7	160	3,600	Wrightsman Petroleum Corp.
81	NE 15-26-7	160	1,100	Prairie Oil & Gas Co.
82	NW 15-26-7	160	900	New England Oil & P. L. Co.
83	SE 15-26-7	160	2,200	White Eagle Oil & Refing Co.
85	NW 10-27-7	160	100	National Refining Co.
86	SE 10-27-7	160	400	New England Oil & Ref. Co.
87	SW 10-27-7	160	100	Peters and Prod. & Ref.
88	NW 20-27-7	160	100	Mid-Co. Oil Corp.
89	SW 20-27-7	160	900	White Eagle Oil & Refining Co.
90	NE 26-27-7	160	150	National Refining Co.
93	SW 26-27-7	160	100	L. O. Fink.
94	NE 30-27-7	160	600	White Eagle Oil & Refining Co.
95	NW 30-27-7	160	1,500	White Eagle Oil & Refining Co.
96	NE 7-28-7	160	300	National Refining Co.
97	NW 7-28-7	160	300	Phillips Petroleum Co.
98	SE 7-28-7	160	650	Peters and Prod. & Ref.
99	SW 7-28-7	160	400	Phillips Petroleum Co.
100	NE 11-28-7	160	600	White Eagle Oil & Refining Co.
101	NW 11-28-7	160	700	The Texas Company.
102	SE 11-28-7	160	900	Prairie Oil & Gas Co.
103	SW 11-28-7	160	1,000	The Texas Company.
104	NE 19-28-7	160	700	Phillips Petroleum Co.
105	NW 19-28-7	160	1,000	Phillips Petroleum Co.
106	SE 19-28-7	160	1,600	The Texas Company.
107	SW 19-28-7	160	2,100	White Eagle Oil & Refining Co.
108	NE 20-29-7	160	1,000	White Eagle Oil & Refining Co.
109	NW 20-29-7	160	850	Phillips Petroleum Co.
110	SE 20-29-7	160	1,200	Peters and Prod. & Ref.
111	SW 20-29-7	160	1,100	Phillips Petroleum Co.
113	SW 23-29-7	160	350	Phillips Petroleum Co.
114	NW 2-25-6	160	18,500	Indian Territory Ill. Oil Co.
115	SW 2-25-6	160	17,500	Prairie and Peters.
116	NW 2-26-6	160	52,000	Phillips Petroleum Co.
117	SW 2-26-6	160	600,000	Lewis Gas Products Co.
118	SE 3-26-6	160	465,000	Carter Oil Co.
119	NE 10-26-6	160	95,000	Prairie Oil & Gas Co.
120	NW 13-26-6	160	37,000	Lewis Oil Co.
121	NE 14-26-6	160	150,000	The Texas Company.
122	SW 16-27-6	160	4,200	Prairie and Oliphant.
123	NW 21-27-6	160	300,000	Prairie and Oliphant.
124	NW 27-27-6	160	20,000	The Texas Company.
125	NE 28-27-6	160	405,000	Kewanee Oil & Gas Co.
	Acreage west side	8,960	$2,210,500	Total west side.
	Acreage east side	11,040	$2,266,050	Grand total.
	Total acreage	20,000		

DOMESTIC GRADES OF GASOLINE WEAKER

(Continued from Page 28)

ing to 395,510 bbls. and the latest daily production figures are below this by nearly 10,000 bbls. This decline so far, is more than the increase in production in the West Texas and California fields, with the result the average daily production for the week has fallen more than 30,000 bbls. This factor will justify a more optimistic feeling on the part of refiners for refined oil prices have been greatly influenced by the crude production in that field.

This fact has not been so evident recently as several months ago, but if there is no counter balancing of production through corresponding increases in production from other fields, there is bound to be a better feeling and an effort made to push prices fractionally higher. Stocks of crude oil continued to increase.

Gasoline and Naphtha

Although the general quotations given to the trade for 58-60 U. S. Motor gasoline were from 6 to 6⅛ cents there was sufficient material moving at 5⅞ cents to establish the latter as the low of the market. There were persistent rumors of 5¾-cent gasoline going direct to the trade in cases where large orders were involved but this was not the general case by any means. Additional purchases of the low endpoint material for export continued to support the domestic market price for that grade of material.

The sale of 500,000 gallons of 64-66 375 endpoint gasoline to the Sinclair Refining Co. at 6⅞ cents North Texas which was one-eighth cent above the price at which the same material was purchased a week ago shows how well the export purchases have supported the North Texas market and this is reflected in the Oklahoma situation. But there is more material available in Oklahoma and there has been no corresponding strengthening in price. In fact, one export purchase of more than 100 cars of the same material was made at 6⅝ cents Oklahoma. The demand for the high endpoint gasolines is so little, they are of little importance in the general market.

As natural gasoline prices decline, naphtha prices might be expected to strengthen when used as a blending material but much of the blending formerly done with naphtha is now being done using regular low gravity U. S. Motor gasoline and the naphtha market is of lesser importance.

Natural Gasolines

With the coming of colder weather, the production of natural gasoline continued to increase slightly and added to the supply of an already heavy market. This added production was in the C grade and forced prices from one-fourth to three-eighths cent lower. There was a corresponding weakness in the other grades except A, which sold at last week's price because of its scarcity. The absence of substantial export orders gave this market a rather pessimistic outlook for the immediate future. Some manufacturers point to relief as the Seminole crude production decreases and the deficit is made up by the West Texas crudes, for it is generally understood the gasoline made from the West Texas crude needs a relatively large amount of natural gasoline to bring it up to the same volatility as the present gasoline made from Seminole crude.

Kerosene and Distillates

The failure of export purchasers to come into the kerosene market as predicted gave the market a rather uncertain future. There was no general price change but the market had been carried along from day to day with the hope that an export order would be sufficient to take a portion of the present stocks and relieve the situation. The improved demand for distillates and furnace oil, due to colder weather, allowed prices to be increased fractionally on the better grades and the low flash, 38-40 gravity treated distillate sold at 3½ cents.

Fuel Oils and Gas Oils

There was no evidence of a major change in either the fuel oil or gas oil market but each continued heavy. Several large purchasers of the heavier grades of fuel last week relieved the strain on that market for the time being at least and there was no tendency to quote any grade below the 70-cent price. The bulk of the small purchases were for the low cold test fuels and 30 cold test seemed to be the dividing line between the two classes.

As long as gasoline prices remain at their present level it is probable that industrial gas oil will be plentiful, for the demand for this as a furnace oil is too small to affect the general market and in addition this material must have a very low cost test and a low flash, making the great bulk of the production suitable only as cracking stock or for use in the industries as Diesel fuel or for the enrichment of artificial gas.

Lubricants and Wax

Bright stocks and steam refined stocks were plentiful but there were no general change in the prices. Quotations on bright stock vary from 22 cents to 26 cents but when an investigation of the specifications is made a wide difference in these is apparent and the name bright stock is seen to cover quite a range. The 150-160 viscosity D colored bright stock is generally quoted at 24 to 25 cents and the darker colored bright stocks are quoted at prices ranging downward to 22 cents. The increased production of this material, due to added facilities and the advantages of quantity production along with the lesser seasonal demand has made this market highly competitive and extra quality is being stressed to hold present prices. Compounded oils represented the bulk of the material moved and although there was only a fair volume there was no tendency to lower prices.

Wax was noticeably weak up to the last few days when several shipments relieved the increasing stocks. The general price range of 2½ to 2⅝ cents remained unchanged.

TEN COMMANDMENTS FOR THE DRILLERS

C. A. Perryman, assistant sales manager for the American Cable Co., New York, has written the following "shalt nots" for observance in the use of oil well wire lines:

1. Thou shalt not permit the line to wind around the bull wheel shaft at will. Locate the position at which the spool should be placed on the bull wheel the first time the line is drawn from the well.

2. Thou shalt not permit the rope to slip through the clamps intentionally. The extra time it takes to clamp over pays big dividends.

3. Thou shalt not take the line off reel to bull wheel by putting the end through under the derrick, up the dump hole and over the derrick sill. This is a sharp angle and a bend and contact in the line that will wear the rope in spots and destroy it quickly. A better way is to take the line off through a single casing block that has been anchored to the derrick floor.

4. Thou shalt remember it is better to increase the load and reduce the speed rather than carry lighter loads at the expense of excessive speeds. Any wire rope will stand greater strain under uniform load and moderate speed than when run jerkily and with repeated shocks. Pulling a line under high speed may save a little time but it also may cost a new line and endanger the operator.

5. Thou shalt not use a wire line for drilling in the Eastern fields when there is a direct connection on the tools. Use a "cracker".

6. Remember thy lines to keep them oily. Lubrication covers a multitude of operating sins and saves many a line—many a day.

7. Honor the preformed type of wire rope for practically all duty. It resists high stranding, unstranding and will give longer service.

8. Thou shalt not anchor the slack rope to the bull wheel brace when clamping on. This might be all right with manila but wire lines aren't manila. It is better to use a double hook fastener to a rope that goes straight back from the beam through a pulley fastened to the first girt.

9. Thou shalt not install a new line without first checking up all sheaves. A worn or pinching sheave will do more damage to a line in one hour than a properly fitted sheave in one weak.

10. Thou shalt not let the line run faster than the bailer when working in fluid. If you do the line will go down the hole in the form of a coil and your line will kink and ruin itself. Let the bailer pull the line, holding it taut.

Late Fields

OKLAHOMA

The production of the Seminole Field on Tuesday of this week was:

Little River	42,069
Bowlegs	111,545
Earlsboro	151,623
Seminole	54,459
Searight	21,981
Total from 1,048 wells	381,678

The Tidal Oil Co.'s No. 5 Watkins, SE cor. NW NW Section 9-9-5, swabbed 20 bbls. after a shot of 10 quarts in sand 4,270-4,284 feet. The Carter Oil Co.'s No. 3 Sango, SE cor. NE SW Section 1-9-5 swabbed 55 bbls. after a shot of 20 quarts in sand 4,320-32 feet.

An important development was the finding of water in the Mid-Continent Petroleum Corp.'s No. 1 Manuel, NE cor. SE NW Section 27-7-6. This well had Simpson sand at 4,240-4,265 feet, and is believed to have passed out of the Simpson at 4,280 feet. The water was found about 4,280½ feet, and its origin has not been determined. The well had a good showing of oil in the Simpson at 4,259 feet.

Snowden & McSweeney's No. 1 Tiger, NW cor. NW Section 13-7-6 has been fully shut in, and under the operators' plan, ths company will keep the well shut in six days out of every week, opening it the seventh to allow it to flow 700 bbls.; or the equivalent of 100 bbls. per day for the week.

Of Interest to Sales Departments

VARYING GASOLINE PRICES QUESTIONED

The unsettled conditions obtaining in retail gasoline stations all over the country are illustrated in a summary just compiled by the American Automobile Association, which shows that gasoline prices in the United States range all the way from 10 to 27 cents a gallon for straightrun and from 13 to 29 cents for high test gas. This wide variation in the price of gasoline throughout the country was revealed in a check-up by 950 motor clubs affiliated with the American Automobile Association. The check-up by the national motoring body showed that on November 22 gasoline was selling at 47 different prices. The lowest price on the date of the check-up was 10 cents for straightrun and 13 cents for high test gas at Peoria, Ill., and the highest was 27 cents for straightrun and 29 cents for high test, at Phoenix, Ariz. Proximity to sources of supply appeared to be a negligible factor in determining prices, says the A. A. A., since prices were in many instances higher close to the oil fields than they were at points to which a long haul was necessary. Prices at tidewater were on the whole higher than those charged at inland points. One of the most striking features of the A. A. A. survey is its disclosure of the rapidity with which prices change within small areas where basic conditions such as rentals, supply and demand are the same.

COAL FROM OIL PROJECT

CHATHAM, Ontario, Dec. 3.—No announcement has yet been made as to the results of tests carried on by the Coal-in-Oil Corp. of New York with a view to extracting oil from the coal of the Inverness mines in Nova Scotia. The company took an option on the properties of the Inverness Coal & Railway Co. The Inverness coal is of high quality, but owing to overproduction elsewhere since the war the mines have been operated only a few months in the last seven years.

The Coal-in-Oil Corp. of which Eugene Davis is president plans to employ an European process of crushing coal and putting it through a by-product plant. The daily output will consist of 1,600 tons of a product known as supercoal and 16,000 gallons of high volatile by-products of the toluol, benzol and xylol types which will be mixed with ordinary gasoline to produce motor fuel of exceptionally high antiknock and mileage qualities. High calorific gas will be another product. Ultimate plans include a $7,000,000 plant employing 3,000 men.

REDEEM COUPON BOOK FOURTEEN YEARS OLD

Redeeming a coupon book which was 14 years old was the unusual experience recently of the Pure Oil Co.

According to the Pure Oil News in 1913, John Schafer of Cincinnati purchased from the old Moore Oil Co. (which six years later was purchased by and is now a part of the Pure Oil Co.) Coupon Book No. 421, good for $10 worth of gasoline or oil at any company station or from any company truck. After being partially used the book became mislaid, and recently while delving through some old papers, he found it, shortly thereafter presented it at one of the Cincinnati Pure Oil service stations for gasoline, where it was promptly and fully honored.

Short Talks on Specifications

By W. T. Ziegenhain

PRECIPITATION NUMBER OF LUBRICATING OILS

The precipitation number is used principally in connection with the quality of cylinder stocks and other heavy lubricants although the test may be made on the lighter lubricants as well. The precipitation number is the number of cubic centimeters of sediment formed when 10 cubic centimeters of the oil sample are diluted to 100 c.c. with a special petroleum naphtha and the solution centrifuged.

The result of the test is expressed as a number and not as a percentage of the oil even though the result is read as the number of cubic centimeters of sediment centrifuged out of the 10 c.c. sample. For example 1 c.c. of sediment may be shown at the end of the test and in that case the precipitation number would be 1.0 but this could not be interpreted as meaning the 10 c.c. of oil contained 1 c.c. or 10 per cent sediment for a considerable quantity of the solution remains mixed with the sediment. Because some of the solution is thus included in the sediment the result is reported as a number instead of a percentage.

The amount of this sediment is a measure of the tarry matter and solids present in the oil and of course, the less amount of these the better the lubricating quality of the oil. An excess of these will cause poor circulation of the oil in the engine, may induce the formation of gums and resins and if the residue contains sand or salts, may even cause additional wear, corrosion or help in the formation of permanent emulsions.

Test Procedure

The test procedure prescribes that exactly 10 c.c. of the oil sample be measured into each of two centrifuge tubes at room temperature and these filled to the 100 c.c. mark with a special naphtha. The tubes are then tightly stoppered with corks and inverted at least 20 times in mixing the oil and naphtha. The tubes are then placed in a water bath for five minutes, the bath temperature being maintained between 90 and 95 degrees Fahrenheit. Then the tubes are removed and the corks loosened to remove any pressure. They are next placed in opposite sides of the centrifuge and whirled for 10 minutes at a rate of 1,400 to 1,500 r.p.m. The number of cubic centimeters of the sediment is read and then the tubes are whirled for 10 minutes more. If there is no change in the amount of sediment the reading is recorded as the precipitation number of the oil and should be read to the nearest .05 c.c.

The special naphtha referred to above must have certain definite specifications and it is very essential that these be adhered to, for materially different results are shown when ordinary naphtha or gasoline is used. The specifications provide for a petroleum naphtha having a specific gravity of .695 to .705, initial boiling point 113 to 131 degrees Fahrenheit, and an endpoint not higher than 248 degrees Fahrenheit.

DEPARTURE IN SERVICE STATION LAYOUT

LOS ANGELES, Calif., Dec. 10.—Designed to conform to the general architectural scheme of the district in which it is located, the Union Oil Co.'s new service station, located here, is in arrangement a marked departure from the usual layout of service stations. Dignity and simplicity are the dominant features of the new station. The Spanish architectural motif with its warm walls and red tile roofs, so much in favor in southern California, was selected by the company engineers for the new unit.

The main sales room with its tower, reminiscent of the California missions, abuts on the street line with the canopied driveways and pumps to the rear. The canopy extends to a depth sufficient to accommodate two cars, while four pumps serve the trade. The rest rooms, a standard equipment in all Union Oil service stations are detached from the station proper being located at the rear of the site.

The opening of the new service station gives the Union Oil Co. four distinctive stations in Beverly Hills and 44 in the city of Los Angeles. The Union Oil Co. now owns or operates 329 domestic and foreign sales stations and commission agencies and 414 service stations extending from Alaska in the north to Mexico in the South and reaching across the Pacific to the Hawaiian Islands and the Orient.

FIRST OIL ELECTRIC STATION IN OPERATION

The first oil-electric power station has been placed in operation at Seward, N. Y., and, according to Oil Engine Power, opens up another field for the use of oil. There has been a gradual change in the kinds of fuel used by the industries, particularly power plants and oil has not had the increased use one might expect even though prices have been very low this year.

Water power and gas are slowly replacing both coal and oil in many cases and the change seems logical in those localities favored with these two convenient power sources. Likewise the use of powdered coal has had a great increase and large plants situated near coal mines found it cheaper to use the slack coal than to use oil.

But the new field open to the oil industry is to supply Diesel fuel to the thousands of small generating stations that may develop throughout the less densely populated areas as a result of the introduction of the automatic oil electric power unit. The operation of the unit referred to is said to be fully automatic including the starting, fuel supply, water circulating system and power output to meet the fluctuating loads. It is said the operation of these automatic stations will cost much less than the transmission of the same amount of power and will allow many communities cheap electricity not now supplied or are being supplied at a high rate.

DISTRIBUTORS "CASH IN" ON FOOTBALL ATTENDANCE

With the season practically ended, distributors of petroleum products have had another demonstration that there is a relationship between football games and the consumption of lubricating oils and gasoline. Reports from different sections of the country indicate that more and more distributors are "cashing in" on the fact that a large percentage of the American automobile owners are "football crazy" during a period of about three months each year.

The Standard Oil Bulletin, official publication of the Standard Oil Co. of California, devotes the greater part of the November issue to pictures showing the tremendous crowds which each Saturday attend the major football games at universities and colleges located on the West Coast. It has been found that the automobile is the most convenient method of attending these games. This is especially true if parking space is provided near the stadium where the games take place.

In many cases, due to the fact that stadiums are located near large parks, it has been possible to accommodate from 5,000 to 20,000 automobiles within walking distance. Merchants of the larger cities have realized the possibilities of providing accommodations for the alumni and other interested spectators and are making every effort to provide adequate parking places.

Distributors located on the main highways leading to the towns and cities where the football games are being held report an increased volume of business. This business generally extends over two or three days as many of the spectators spend a day in getting to the game and a day returning.

Distributing companies have devised various methods of attracting this football trade to their stations. In Ohio, one company decorated its stations with the colors of the opposing universities. Some of its stations were over a hundred miles from the place where the game was played. Drives of two and three hundred miles are not uncommon when weather conditions are favorable.

Technical Questions Answered

BY CHARLES K. FRANCIS, PH.D., TECHNICAL EDITOR

This department of The Oil and Gas Journal is devoted to the manufacturing branches of the oil industry.

Those connected with the refining of crude petroleum, the manufacture of natural gasoline and closely allied industries are invited to submit their problems to Dr. C. K. Francis, technical editor. The department was created for the purpose of aiding managers, superintendents, engineers, chemists and all those engaged in the various phases of plant operation; also those connected with the marketing and utilization of petroleum products.

Questions should be submitted in as much detail as possible so as to assure a satisfactory answer.

All inquiries should be signed and if other than the given initials are to be used please indicate the desired letters.

Questions involving patented processes, intricate formulas and calculations and estimates of costs, for obvious reasons, cannot be answered. The replies will appear on this page within a reasonable time.

CORROSIVE SUBSTANCES IN CRUDE OIL

What substances are found in crude oil which cause corrosion? Is it possible to treat crude before refining so that these substances can be removed and thus stop corrosion troubles?—G. F. B.

Corrosion of refinery installations is caused by water, salts, and sulphur. Some crude oils contain water which holds in solution appreciable quantities of acids; others contain large quantities of alkaline salts; both of these are highly corrosive. The salts are usually contained in the traces of water, and when heated decompose with the formation of hydrochloric acid which in the presence of water or steam is highly corrosive. The water found with oil may contain numerous other things which are directly or indirectly corrosive; examples are organic matter, dissolved gases, numerous sulphur compounds and the substances which have been mentioned. Sulphur, present in the water and the oil, is the source of most of the corrosion. It forms sulphides and several acids of sulphur.

The treating of crude oil before refining is possible and is practiced to some extent, but economic conditions have to be considered. At this time the market price of petroleum products does not warrant any considerable expense for preliminary treating. Some advantage may be gained by settling and a few refiners who have a supply of cheap water, are washing the crude with water and thus obtaining improved separation of the salts upon standing. The addition of proper neutralizing chamicals must be resorted to during the refining operation when oils high in sulphur are run.

Much progress has been made within the past few years in keeping corrosion within control through the use of metals which are prepared so as to resist the action of the various corrosive substances found in oil, or produced through the decomposition of the salts, etc. Various irons and steels have been modified in composition by the alloying of special metals, such as chromimum and nickel, which are noncorrosive.

COMPOSITION OF PETROLEUM

Will you kindly give the composition of petroleum showing the percentage of carbon, hydrogen, etc.?—C.T.R.

Gurwitch-Moore, Petroleum Technology, page 11, gives the elementary percentage composition of Baku petroleum when separated into the fractions mentioned.

	Carbon	Hydrogen
Gasoline fraction, below 185°F.	84.86	15.14
Machine oil	86.20	13.80
Cylinder oil	87.30	12.70

Petroleum as found in different parts of the world was not the same chemical structure. This is illustrated in a recent discussion of The Petroleum Times, reporting the recent article of Doctors Koetschau and Schmitts, Hamburg, entitled "The Natural Petroleums; their Chemical connection with one another and to the Low Temperature Distillation Products of Coals," published in Brennstoff-Chemie, No. 17.

In this article it is shown the great differences in the composition of the many liquids coming under the general name of "petroleum" according to the localities from which they are obtained. This is obvious from the following table of elementary analyses taken from the article:

	Per cent
Carbon	79.5-88.7
Hydrogen	9.6-14.8
Oxygen	1.0- 6.9
Nitrogen	0.02- 1.1
Sulphur	0.01- 5.0

The general classification of crude petroleums into paraffin-base, asphaltic-base, and intermediate-base petroleums is familiar, as is also the great differences in chemical composition and physical properties.

CORROSION OF STORAGE TANKS

We are informed that the steel is destroyed in the roofs of tanks containing hydrogen sulphide oil and that untreated wood, while lasting longer than steel, still is attacked by decay and by chemical action of this gas. It appears that creosoted timbers provide the best means of combating the chemical effects of this gas, so creosoted timbers should be specified instead of steel for roof supports. Will you tell us frankly what you think of the idea?—C. C.

Wood when treated with either petroleum or creosote is protected against the destructive action of vegetable growth and insects, so it is the practive to take advantage of this fact when timbers are to be exposed to the air or covered with earth. This trouble would not be met with when timbers are emersed in oil or surrounded with petroleum vapors and gas, because these substances offer ample protection. We have no information indicating that hydrogen sulphide unites with wood in any way. Under some conditions certain acids, such as sulphurous and sulphuric, may be formed from hydrogen sulphide and of course these cause damage to wood. However, it is not known that creosote would neutralize such acids under the conditions existing in an oil storage tank.

We know that the greater destructive action of hydrogen sulphide takes place above the surface of the oil, except when water is permitted to accumulate in the tanks and then corrosion of the bottoms will occur. When oils containing hydrogen sulphide are to be stored the corrosive properties should be considered in the construction of the tanks. Timber supports are better than steel under the conditions. Some tanks are being built without steel roofs; cement and asbestos materials not being affected in the same way are meeting with favor for this purpose.

SPECIFICATIONS FOR ACTIVATED CHARCOAL AND TESTING FOR STRENGTH

What tests should be used to show the quality of different lots of activated charcoal? What grade is 50-minute charcoal?—D. B. G.

Activated charcoal was first used in gas masks and in testing the capacity of different specimens it was the practice to use a dangerous substance, known as chloropicrin, for the standard. Chloropicrin vapors were passed through a definite quantity of the charcoal to saturation. The time required to saturate the charcoal was expressed in minutes, and the charcoal which would require the longest time was the best. The most satisfactory charcoals required from 40 to 60 minutes, and were graded in this manner: a 50-minute charcoal being one that would require 50 minutes to saturate under the conditions of the test. More recently carbon tetrachloride has been substituted for chloropicrin.

The carbon tetrachloride test is made by passing air which is saturated with carbon tetrachloride vapors through the charcoal until no more will be absorbed. This is generally done at a low temperature, at the freezing point of water, and when the vapors begin to pass through the charcoal they are detected in gas flame in which is suspended a coil or strip of copper. The chloride of copper is formed and imparts a green color to the flame. If it is desired to convert the results obtained by the carbon tetrachloride test to chloropicrin values they should be multiplied by three.

The specifications for activated charcoal given by Burrell, in "The Recovery of Gasoline from Natural Gas," page 311, are as follows:

Absorption capacity—Minimum 40 minutes.

Size—6 to 14-mesh. Not more than 5 per cent finer than 14-mesh.

Density—0.52 (approximately).

Weight—To be computed on a moisture free basis.

The above indicate the nature of the usual tests. Complete details of methods and apparatus may be found in the above book.

BEAUFORT WIND SCALE

What is the meaning of Beaufort wind units? Where can I get a complete description of the different units used in this connection?—M. B. O.

The Beaufort scale is one which makes use of ordinary words for the purpose of indicating wind velocities. The following information is to be found in the handbook of the Taylor Instrument Co.

"The valves and terms for wind velocity as given in the Beaufort scale have come into general use by observers, both on land and sea, and are recognized by the International Permanent Committee on Meterology. The terms used are well known words, conveying a definite meaning and well defined in any modern dictionary, thereby eliminating all danger of misunderstanding on the part of the general public. In some instances definite values of velocity are required and if these canot be closely enough translated from the terms of the Beaufort scale, they can be obtained by using a velocimeter or anemometer. In general, however, it is sufficient to know that the wind velocity would come under, as example: moderate gale, indicating that its velocity was from 34 to 40 miles per hour.

The following table gives the values for the terms of the Beaufort Wind Scale, assigned to it by the United States Weather Bureau.

No.	Term	Miles per hour
0	Calm	0 to 3
1	Light air	3 to 8
2	Light Breeze	8 to 13
3	Gentle Breeze	13 to 18
4	Moderate Breeze	18 to 23
5	Fresh Breeze	23 to 28
6	Strong Breeze	28 to 34
7	Moderate Gale	34 to 40
8	Fresh Gale	40 to 48
9	Strong Gale	48 to 56
10	Whole Gale	56 to 65
11	Storm	65 to 75
12	Hurricane	75 and over

GRAVITY AND VOLATILITY OF GASOLINE

Why is it that gravity is not included in the standard specifications for gasoline? The gasoline shipped from our refinery runs quite uniform but a low gravity gasoline is always off test on distillation so it seems that both gravity and distillation should be required.—C. B. E.

The standard specifications for petroleum products in the United States are those published by the Bureau of Mines. These are followed when purchasing supplies from the various departments of the Government. It has been found by the examination of a large number of gasolines, which have been made from different crudes, that there is no relation between gravity and volatility as measured by the distillation test. A complete discussion would take up too much space to be given here but a few illustrations will probably give enough information.

If we accept the ordinary distillation range of the gasolines now on the market to be between 100 and 440 degrees Fahrenheit, tests will show that the gravities for this quality have a wide range. Products having an initial boiling point around 100 and endpoints no higher than that above mentioned have been found to have a gravity as low as 40 A.P.I. and as high as 60 A.P.I. Gravity is a matter largely dependent upon the character of the crude oil and it may be varied by the kind of operation through which it passes in the course of manufacture. Should gravity be included in the standard specifications there would be a limited source of supply, unless a very wide range were permitted.

So far as a local product is concerned it is true that the distillation range is usually uniform with a fixed gravity. However, this is the result of analyses in which distillation and other tests have been made to determine the desired quality; then gravity has been selected as a rough means of control in the refining operation. Gravity may be and in fact is, stipulated in contracts in each district in which gasoline is made but to include this for the product to be purchased all over the country would be of no value to anyone.

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Importance of Barometric Pressure

Necessary to Make Corrections in Orifice Meter Measurements. Committee Suggests Important Changes. Tables Given

By B. M. Laulhere and W. M. Young*

In orifice meter measurement, two absolute pressures must be definitely established. The first is the absolute base pressure, to be used in establishing the unit of measurement, and the other is the absolute pressure of the gas in the meter. The first is an arbitrary pressure, the second an actual one. The base pressure may or may not be selected with reference to the barometric pressure at the point of measurement. However, to obtain accurate volumes the average barometric pressure at the point of measurement must be known, in order to establish the absolute pressure of the flowing gas.

The unit of gas measurement is referred to an absolute pressure base, which is usually designated in pounds per square inch. This absolute pressure base is usually fixed as a certain number of ounces above the average barometric pressure at the point of measurement. Until recently, it has been standard practice to consider the average barometric pressure as 14.4 pounds per square inch; which is due to the fact that this value is representative of the average barometric pressure of most of the gas fields in the United States. To this barometric pressure, a pressure base usually expressed in ounces was added, to arrive at the absolute pressure base to be used in establishing the unit of measurement.

In recent years, however, gas fields have been developed where the average barometric pressure varied both above and below 14.4 pounds per square inch, in fact, ranging from about 11.9 pounds per square inch to 14.7 pounds per square inch. With the development of gas in these fields, it became customary to use the average barometric pressure in these localities, plus a certain number of ounces (usually 4 ounces) as the absolute pressure base to be used in determining the unit of measurement.

The unit of measurement established in this manner, varies with the barometric pressure at the point of measurement, and the results obtained are comparable only with measurements made at localities having the same barometric pressures.

For example, assume a pipe line where the average barometric pressure at one end is 14.4 pounds per square inch, and at the other end 11.4 pounds per square inch. At both ends a pressure base of 4 ounces is used, giving absolute pressure bases of 14.65 and 11.65 pounds per square inch respectively, at the lower and upper ends of the line. Using these values in the coefficients, for measuring at each end of the line, will obviously give different volumes. A coefficient calculated on an absolute pressure base of 11.65 pounds per square inch at the upper end of the line, results in a volume approximately 20 per cent greater than the measurement obtained by using an absolute pressure base of 14.65 pounds per square inch at the lower end of the line.

It is evident, that if more gas is measured out of the line than is measured into it, the units of measurement must be different. In other words, the cubic foot used to measure the gas in is different from the cubic foot used to measure the gas out; hence the results obtained when different absolute pressure bases are used are not comparable. It is readily seen, that if the average barometric pressure is used in calculating coefficients for meters at different elevations, it is impossible to compute pipe line losses without making corrections for these differences.

This fact also holds true when calculating plant efficiencies. In some districts of southern California, as many as three units of measurement are used in the same field; these are based on absolute pressures ranging from 14.65 pounds per square inch to 14.9 pounds per square inch. In fact, they are in use on the gathering system of one compressor station. The maximum error, or rather the difference due to the use of the various units of measurement in this case is 1.7 per cent. This leads to many difficulties, not only in arriving at losses on pipe line systems and through plants, but also in gas accounting which is becoming more and more complicated.

Absolute Pressure Base

Since the weight of a unit volume of gas does not change, and neither does its heat content, it is apparent that through the use of different units of measurement, the unit volume will change and the heat content per unit volume will be different. Therefore, in making comparisons between gas and other fuels, it is necessary to know the absolute pressure base used in establishing the unit of measurement. The importance of this, when making comparisons with other fuels, is best illustrated by an example:

A gas measured, using an absolute pressure of 14.73 pounds per square inch and 60 degrees Fahrenheit temperature, to establish the unit of measurement, contained 960 B.t.u. per cubic foot. The same gas measured, using an absolute pressure of 12.28 pounds per square inch and 60 degrees Fahrenheit temperature, to establish the unit of measurement, will contain 800 B.t.u. per cubic foot. Assuming a barrel of oil to contain 4,800,000 B.t.u., this would be equivalent to 6,000 cubic feet of gas, measured at an absolute pressure base of 12.28 pounds per square inch, and 5,000 cubic feet of gas measured at an absolute pressure base of 14.73 pounds per square inch. It is evident that in making comparisons between gas and other fuels that proper thought must be given to the unit of measurement, to which the gas is referred; since the heat content of liquid fuel is the same at any altitude.

In establishing the unit of measurement, in this case the cubic foot, two conditions must be known. The first, is the base temperature, to which our standard cubic foot is to be referred, and the second, is the absolute pressure, to which this unit of measurement is to be referred. Regarding the first condition, the accepted base temperature, with very few exceptions, is 60 degrees Fahrenheit. In all gas measurement work, great care has always been taken to refer the flowing temperature to the standard base temperature, by making the necessary connections. Regarding the second, there seems to have been a great deal of confusion or misunderstanding, as to how the barometric pressure affected orifice meter measurement.

There has apparently been a misunderstanding, that in order to make volumes comparable, the coefficients should be corrected for changes in barometric pressures. Since all gas measurements are referred to as 60 degrees Fahrenheit (520 degrees absolute) temperature, irrespective of the atmospheric temperature at the point of measurement, it does not seem logical to change the absolute pressure base to conform to barometric pressures at the point of measurement.

Should Adopt Standard

It is time, that a standard absolute pressure base should be adopted for use in establishing the unit of measurement, and eliminate many of the misunderstandings that have existed up to the present time. The accepted pressure standard now used in gas testing work is 30 inches of mercury (14.73 pounds per square inch) and 60 degrees Fahrenheit temperature. This standard, is also used for the measurement of manufactured gas. There seems to be no reason why a different standard should be used for the measurement of natural gas, and the following resolution was adopted by the Pacific Coast Gas Association at its annual convention at Santa Cruz last September:

Whereas; the present practice in the natural gas industry of basing gas measurements by means of orifice meter on the barometric pressure at the point of measurement tends to reduce in accuracy and complicate orifice meter measurement, and,

Whereas; It would be desirable to have a uniform pressure datum for gas measurement throughout the gas industry, and,

Whereas; A pressure datum of 14.73 pounds per square inch has been established and is universally used in the manufactured gas industry and in testing work be it therefore resolved: That in orifice meter work a standard pressure of 14.733 pounds be recommended for use by all member companies and their associates in the natural gas industry.

2. The Effect of Barometric Pressure on Pressure Extensions

The barometric pressure, however, does have an important bearing on the measurement of gas, but only after the unit of measurement has been established.

The formula used for calculating the flow of gas through an orifice meter is:

$$Q = C\sqrt{Ph}$$

in which

Q = The quantity of gas passing the orifice in cubic feet per hour.

C = A coefficient, depending on the specific gravity of the gas, its temperature, size of pipe, size of orifice, location of pressure connections, etc.

P = Absolute pressure of the flowing gas.

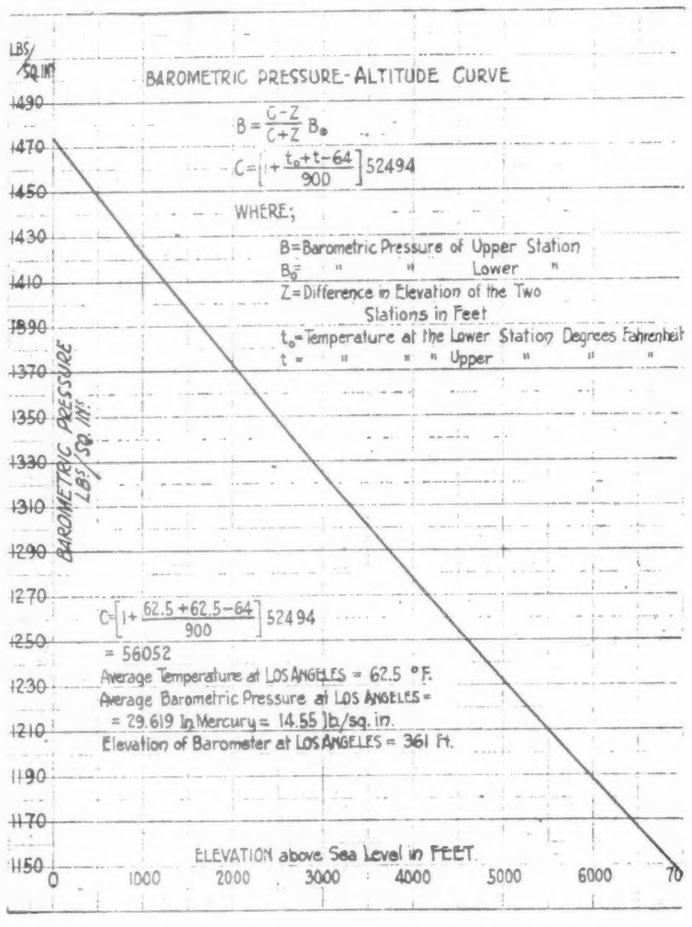
h = Drop in pressure across the orifice in inches of water.

The absolute pressure, P, is the sum of the gauge pressure, and the barometric pressure at the point of measurement.

Correcting Error

The present pressure extension tables, are based on a barometric pressure of 14.4 pounds per square inch; therefore, in order to obtain correct results, a correction must be applied to the volumes calculated, when using these tables, if the barometric pressure at the point of measurement is other than 14.4 pounds per square inch.

This error becomes greater as the difference between the barometric pressure at the point of measurement and 14.4 increases; but it decreases rapidly as the pressure increases. However, when measuring gas at very low gauge pressures or



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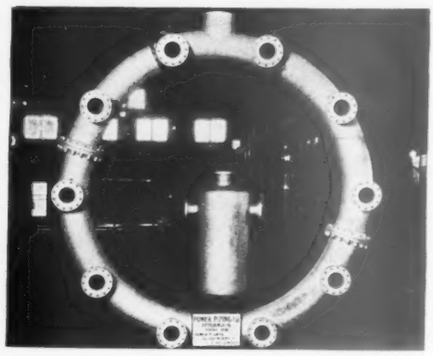

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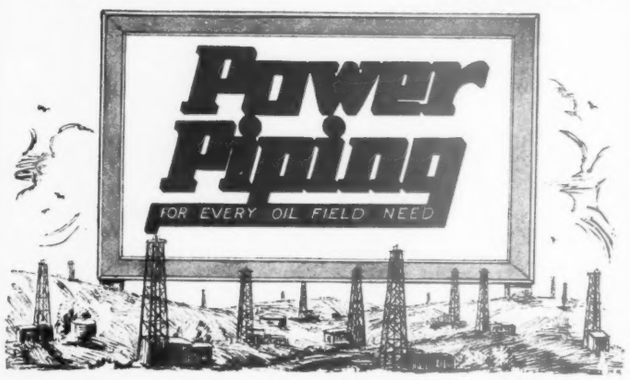

at a partial vacuum, the error is considerable.

Correction Table

The following tables show the error when measuring gas at various pressures, and different barometric pressures, at the point of measurement when the volumes have been calculated using pressure extensions based on a barometric pressure of 14.4 pounds per square inch.

Barometric Pressure at Point of Measurement=14.73 lbs./D"

Pressure	Error
20" Vacuum	3.5 % low
10" Vacuum	1.6 % low
0 lb. Gauge	1.15% low
5 lbs. Gauge	.85% low
25 lbs. Gauge	.4 % low
50 lbs. Gauge	.25% low
100 lbs. Gauge	.15% low

Barometric Pressure at Point of Measurement=14 lbs./D"

Pressure	Error
20" Vacuum	4.45% high
10" Vacuum	1.9 % high
0 lb. Gauge	1.4 % high
5 lbs. Gauge	1.05% high
25 lbs. Gauge	0.5 % high
50 lbs. Gauge	0.3 % high
100 lbs. Gauge	0.15% high

Barometric Pressure at Point of Measurement=12 lbs./D"

Pressure	Error
20" Vacuum	30.9 % high
10" Vacuum	14.1 % high
0 lb. Gauge	8.7 % high
5 lbs. Gauge	6.4 % high
25 lbs. Gauge	3.0 % high
50 lbs. Gauge	1.9 % high
100 lbs. Gauge	1.1 % high

Barometric Pressure at Point of Measurement=14.6 lbs./D

Pressure	Error
20" Vacuum	2.2 % low
10" Vacuum	1.0 % low
0 lb. Gauge	0.7 % low
5 lbs. Gauge	0.5 % low
25 lbs. Gauge	0.25% low
50 lbs. Gauge	0.2 % low
100 lbs. Gauge	0.1% low

Barometric Pressure at Point of Measurement—13 lbs./D"

Pressure	Error
20" Vacuum	16.3% high
10" Vacuum	6.9% high
0 lb. Gauge	5.0% high
5 lbs. Gauge	3.7% high
25 lbs. Gauge	1.8% high
50 lbs. Gauge	1.1% high
100 lbs. Gauge	0.6% high

It is apparent that the error caused by the use of these tables, at elevations where the barometric pressure is other than 14.4 pounds per square inch, is of great importance since it is not compensating.

If the barometric pressure at the point of measurement is greater than 14.4 pounds per square inch, the volume resulting from the use of pressure extension tables based on 14.4 pounds is less than the true volume, and greater than the true volume of the barometric pressure at the point of measurement is less than 14.4 pounds.

The correction to apply to the volume, obtained by the use of pressure, extension tables, in order to correct for the actual barometric pressure at the point of measurement is:

$$\text{Multiplier} = \sqrt{\frac{\text{Gauge pressure plus barometer at point of measurement}}{\text{Gauge Pressure plus 14.4}}}$$

Making Correction

A method of making this correction that saves any calculation, and also permits of the use of the present pressure extension tables, is to make the necessary adjustment to the gauge. If the barometric pressure is below 14.4 pounds, set the static pressure pen, a space below the zero line on the chart equal to the difference between the barometric pressure and the 14.4 pounds. If the barometric pressure at the point of measurement is greater than 14.4 pounds, set the pressure pen above zero a space equal to the difference between the barometric pressure at an elevation of 375 feet and 14.4 pounds.

For example: When the barometric pressure is 12.4 pounds per square inch, set the static pen 2 pounds below zero, when the gauge is open to the atmosphere. When a pressure is applied until the gauge shows a pressure of 20 pounds, the absolute pressure is (20 plus 2) plus 12.4 equals 34.4 pounds. By making this adjustment to the static pressure pen, a static pressure is recorded that corresponds to the absolute pressure used in calculating the pressure extension tables, now in use and based on a barometric pressure of 14.4 pounds. Consequently, if the static pressure pen is adjusted to make the necessary allowance

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between the barometric pressure at the point of measurement and 14.4 pounds per square inch as suggested, the pressure extension tables may be used with no other correction to obtain correct volumes.

This method of making corrections for the barometric pressure is satisfactory where measurements are made under pressure; but in cases such as the measurements from heading wells, where during part of the time the gas is under a pressure, and part of the time under a partial vacuum, it is not to be recommended. It has been tried on compound springs, but the results have not been satisfactory.

Due to a wide range of the static pressure variation, or other reasons, it might not be advisable to use either of the above methods of making corrections. In such cases, a method of calculating volumes with a slide rule may be resorted to. A slide rule has been devised that can be obtained in graduations suited to any barometric pressure and the volumes obtained with this rule are correct for the particular barometric pressure, for which it has been calibrated, no further corrections being necessary.

Average Pressure

The committee has given considerable thought to the making of changes in barometric pressures for use under the radical, and make the following recommendations for establishing the average barometric pressure:

First: That the average barometric pressure, for use under the radical, be changed for each 250 feet in elevation.

Second: That the average barometric pressure to be used under the radical, be the average barometric pressure of the point midway between the 250-foot stations.

For example: The average barometric pressure at an elevation of 125 feet would be the barometric pressure for use under the radical, for all meters between sea level and an elevation of 250 feet, and the average barometric pressure for use between 250 feet elevation and 500 feet elevation.

Using this suggested method, the greatest error would only be that due to the difference in absolute pressures, as they would be affected by a difference in elevation of 125 feet. Except in cases of very high vacuum this is negligible. At 20 inches of vacuum this amounts to 0.7 per cent, at sea level, and 1 per cent at 4,000 feet elevation. At atmospheric pressure, the maximum error is 0.2 per cent for the same range of elevations.

It is obvious that difficulties may be encountered in arriving at the average barometric pressures to use under the radical at various elevations. Due to monthly and seasonal changes, it would be impractical to take a barometer to the meter station to determine the barometric pressure. Even an average of readings, extending over a short period of time, would be unsatisfactory.

Hough Method

F. A. Hough, in a paper presented before the Pacific Coast Gas Association, September, 1927, suggested a method of determining the average barometric pressure, for use in connection with orifice meter measurement. It is entirely practical, and if adopted, would eliminate all of the difficulties encountered in arriving at the absolute pressure.

The method suggested by Mr. Hough follows:

To facilitate the using of true absolute pressures in calculating orifice meter data, the chart shown has been plotted. This chart gives values for the barometric pressure at elevations ranging from sea level to 7,000 feet, and is applicable, the committee believes, to all points in Southern California where orifice meters are used. The data for this chart was obtained as follows: From the United States Weather Bureau in Los Angeles, the average barometric pressure for the period from 1878 to 1924 was obtained as well as the average temperature for the same period. The assumption was then made that the average temperature at all other points in Southern California is the same as that of Los Angeles (a rather large deviation from this assump-

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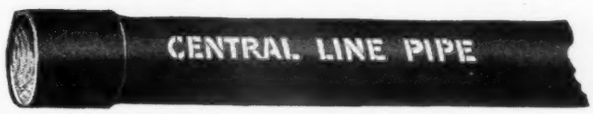

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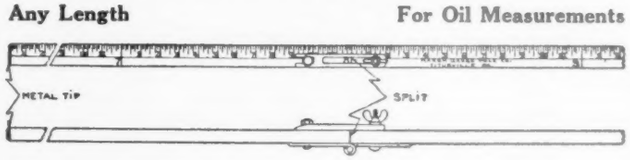

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tion would cause a negligible error in the barometric pressure reported) and that the average barometric pressure for all points in southern California differs from that of Los Angeles only because of difference in elevation. The elevation of the weather bureau was obtained and the barometric pressure for a series of elevations was calculated by means of the following formulae taken from Smithsonian Physical Tables, Seventh Revised Edition, page 145.

$$Z=\frac{(Bo-B)}{C(Bo+B)}$$

$$C \text{ (in feet)}=52494\ \frac{(1+to+t-64)}{900}$$

in which Z=Difference in height of two stations in feet.

Bo=Barometric pressure at lower station in inches of mercury.

B=Barometric pressure at upper station in inches of mercury.

to=Temperature at the lower station in degrees Fahrenheit.

t=Temperature at the upper station in degrees Fahrenheit.

Sample Calculation

Average barometric pressure at Los Angeles equals 29.619 inches mercury.

Average temperature at Los Angeles equals 62.5 degrees Fahrenheit.

Elevation of barometer at Los Angeles equals 361 feet.

Elevation of upper station equals 600 feet.

Average temperature at upper station equals 62.5 degrees Fahrenheit.

$$C=52494\ \frac{(1+62.5+62.5-64)}{(\quad 900 \quad)}$$

$$=56052$$

Transposing the equation

$$Z=C\frac{(Bo-B)}{(Bo+B)}$$

we find that

$$B=\frac{(C-Z)}{(C+Z)}Bo$$

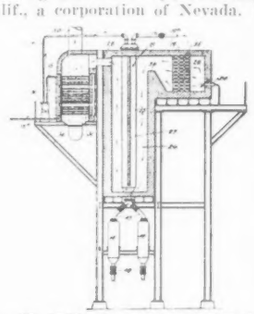
$$B=\frac{56052-(600\cdot361)}{56052+(600-361)}\times 29.619$$

B=29.368 inches of mercury=14.42 pounds per square inch.

To determine the average barometric pressure at any meter station, it is only necessary to look up the elevation of the meter on a contour map and then read from the chart the barometric pressure corresponding to the elevation of the station. This procedure will doubtless give a value nearer to the average barometric pressure than could be determined by a few observations at the meter by means of an aneroid barometer, and the labor involved is less. If a chart, such as this one, could be generally accepted as standard, disagreement among various companies as to the average barometric pressure at any given point, could be eliminated. A useful figure disclosed by this chart, is that a difference of 100 feet causes a difference in barometric pressure of approximately .05 pound per square inch of .1 inches of mercury.

Recent Patents

1,646,543. Oil-Cracking Process and Apparatus. William C. Kirkpatrick, Alhambra, Calif., assignor to National Refining Process Corp., Los Angeles, Calif., a corporation of Nevada. Filed



Aug. 27, 1925. Serial No. 52,749. Three claims. (Cl. 196-58.)

1. The process of cracking high boil-

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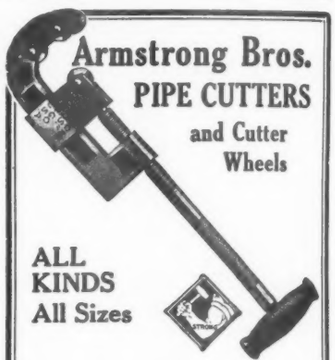

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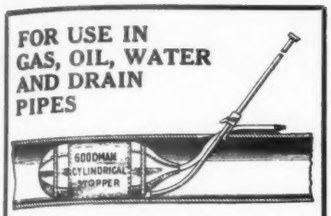

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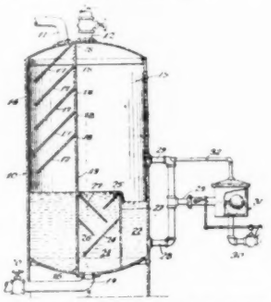
ing point hydrocarbons to lower boiling point hydrocarbons, that includes heating the hydrocarbons to a temperature of about 500 degrees to 600 degrees Fahrenheit, under a low pressure, then placing the heated hydrocarbons under a pressure of about 600 to 700 pounds per square inch, delivering the hydrocarbons at that pressure to a still in which the pressure is maintained at about 150 to 200 pounds per square inch and in which a temperature of about 780 degrees Fahrenheit, or more is maintained, atomizing the hydrocarbons at their point of delivery and pressure release into the still, and taking off from the still the resultant carbonaceous deposit and the vapors and gases evolved.

2. Hydrocarbon cracking apparatus, comprising an expansion cracking chamber, means for heating hydrocarbons and injecting them under high pressure to the expansion chamber, the injecting means including an atomizing nozzle with a small orifice through which the hydrocarbons are forced under high pressure into the expansion chamber, means to maintain the chamber at cracking temperature, means to maintain in the chamber a pressure substantially lower than that under which the hydrocarbons are forced into the chamber, a longitudinal partition extending within the chamber from one end to a point near the other, the hydrocarbon injecting nozzle being at one side of the partition at the first mentioned end, a valve controlled gas and vapor outlet at that same end at the other side of the partition, and a carbon out let at the other end of the chamber.

1,646,929. Cracking Still. Arthur A. Phelan, Los Angeles, Calif. Filed November 1, 1926. Serial No. 145,521. Six claims. (Cl. 196—111.)



1. In an apparatus of the character described the combination of a closed tank having a heated liquid inlet at the top, a vapor outlet at the top, a vertical partition extending from the top and between the liquid inlet and vapor outlet to the bottom of the tank dividing said tank into a liquid receiving chamber and a vapor outlet chamber respectively, an opening in the lower part of said partition affording communication between the liquid receiving chamber and the vapor outlet chamber, a series of downwardly inclined baffle plates in the liquid receiving chamber extending from said partition, the outer ends of said baffle plates being spaced from the walls of the tank, vapor openings in the partition immediately below said baffle plates, a valve controlled carbon outlet at the bottom of the tank, a short vertical partition in the vapor outlet chamber extending upwardly from the bottom of the tank and dividing the lower part thereof into a carbon precipitation compartment and an overflow compartment respectively, a series of downwardly inclined and oppositely arranged baffle plates in said carbon precipitation compartment, a liquid outlet from the overflow compartment and a liquid level valve controlling said liquid outlet.

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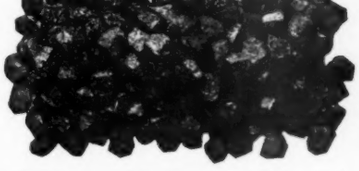

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Detailed Operations in All Fields for Month of November

SUMMARY OF ALL FIELDS

Completed Wells

Field—	Comp.	Prod.	Dry	Gas
Eastern	387	1,644	56	86
Central Ohio	53	56	13	33
Lima	21	329	2	0
Indiana	28	308	10	5
Michigan	4	80	1	0
Kentucky	98	2,509	36	2
Illinois	19	215	7	0
Kansas	137	12,991	45	16
Oklahoma	376	98,896	122	42
North Central Texas	308	17,832	158	13
West Texas	93	231,102	29	2
Texas Panhandle	31	3,990	7	8
East Central Texas	10	460	5	1
East Texas	11		2	9
Southwest Texas	54	227	26	20
Gulf Coast	96	32,127	41	2
North Louisiana	64	4,382	26	16
Arkansas	27	1,478	16	3
Montana	48	4,234	25	6
Wyoming	16	3,040	6	0
Colorado	15	731	7	2
New Mexico	11	138	9	1
Utah	2		2	2
Total November	1,909	416,769	651	269
Total October	1,809	315,912	552	232
Difference	100	100,857	99	37

Rigs and Wells Drilling

Field—	Rigs	Drlg.	Ttl.
Eastern	94	380	474
Central Ohio	19	66	85
Lima	4	34	38
Indiana	5	62	67
Michigan	0	20	20
Kentucky	3	127	130
Tennessee	0	36	36
Alabama	0	7	7
Mississippi	11	18	29
Florida	0	13	13
North Carolina	0	1	1
Illinois	3	31	34
Kansas	53	174	227
Oklahoma	129	770	899
North Central Texas	107	370	477
West Texas	115	307	422
Texas Panhandle	34	134	168
East Central Texas	0	10	10
East Texas	8	17	25
Southwest Texas	26	147	173
Gulf Coast	39	172	211
North Louisiana	53	123	176
Arkansas	15	67	82
Montana	21	80	101
Wyoming	21	147	168
Colorado	8	81	89
New Mexico	5	81	86
Utah	2	24	26
Total Nov.	775	3,499	4,274
Total Oct.	763	3,457	4,220
Difference	12	42	54

Note—In the following report the Section, Township and Range are given first; then the farm, the owner, the serial number of the well and the initial production of the well. The rigs and wells drilling are set forth in similar manner. In lines where the Section, Township and Range are missing the wells are located in the Sections, Townships and Ranges which appear next above in the report.

OKLAHOMA FIELDS

WELLS COMPLETED

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Creek	33	1,265	12	6
Carter	10	762	4	..
Garfield	5	2,518	1	..
Grady	22	562	7	8
Kay	13	107	7	3
Muskogee	11	145	8	..
Okfuskee	6	1,365	2	2
Okmulgee	28	179	9	9
Osage	17	2,866	4	4
Payne and Lincoln	7	570	4	2
Pontotoc and Garvin	14	4,923	4	..
Pottawatomie	22	6,771	3	1
Rogers	14	104	6	2
Seminole	129	76,118	29	1
Stephens and Cotton	12	375	7	..
Wagoner	5	....	5	..
Tulsa	8	88	3	1
Miscellaneous	20	178	7	3
Total November	376	98,896	122	42
Total October	410	170,816	125	52
Difference	34	71,920	3	10

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Carter	6	17	23
Creek	17	53	70
Garfield	..	19	19
Grady	5	32	37
Grant	2	16	18
Hughes	1	13	14
Kay	5	29	34
Logan	2	23	25
Muskogee and Wagoner	5	35	40
Okfuskee	6	28	34
Okmulgee	9	24	33
Osage	12	45	57
Pawnee	2	13	15
Payne and Lincoln	1	13	14
Pontotoc	10	44	54
Pottawatomie	5	42	47
Seminole	25	220	245
Stephens and Cotton	7	23	30
Tulsa	3	13	16
Miscellaneous	6	68	74
Total November	129	770	899
Total October	125	864	989
Difference	4	94	90

CREEK COUNTY

35-18-10 Tate, Hemlock Oil Co. 1 .... dry
22-18-11 Barnett, McCulloch Oil Co. 1.. gas
5-18-11 Eufaula, King et al 1 15
23-18-11 Warren, Producers & Refiners Corp. 2 ..... gas
12-17-10 Harris, Henry & Avers 1 50
9-17-11 Jackson, Irelan et al 2 ..... dry
2-16-11 Behen, Future Dev. Co. 1 35
8-14-10 Kimball & Reading, W. H. Clark et al 1 ..... dry
36-15- 7 Bigpond, Olean Pet. Co. 3 25
2-14- 7 Abraham, Lima O. & G. Co. 1 dry
13-19- 8 Ross, Gled Oil Co. 8 ..... dry
29-19- 8 Taylor, The Texas Co. 2 .... gas
2-16-11 Behen, Pioneer Pet. Co. 1 ... 30
25-18-11 Narharkey, Continental Oil 1 dry
18-14-10 Wolfe, Independent O. & G. 2 gas
22-17-11 Jackson, Carpenter et al 4 .. dry
23-17-10 Fulsom, The Texas Co. 2 25
24-17-10 Tahkaney, J. H. Wright 23 .. 45
16-17-11 Wilson, Thompson & Black 5 dry
27-17-11 Harris, Curtis Oil Co. 1-A .. dry
2-16-11 Anthis, Twin State Oil Co. 2 75
9-16-12 Penoke, Turner & Turner 5 .. gas
20-15- 8 Beaver, Gray Oil Co. 1-A 365
24-15- 7 Benifield, Bu-Vi-Bar Pet. 1.. 25
26-18-11 Unallotted, Continental Oil Co. 1-A 100
4-18-12 Jackson, C. G. Tibbens 2 .... gas
13-17-10 Strip, Kennedy & Horner et al 2 ..... dry
Littlehead, Ted-Ray Oil Co. 1 25
30-17-11 Bruner, McCready Oil Co. 1 .. dry
32-16- 9 Vaughn, Grayhoma Oil Co. et al 1 ..... dry
18-14-10 Harjo, Producers & Refiners Corp. 4 320
Dixon, Wilcox O. & G. Co. 2... 125
Wells completed 33
Production 1265
Dry 12
Gas 4
Gas production 14,000,000

CARTER COUNTY

11-2s-3w Lyles, Schermerhorn Oil Co. et al 3 145
16-2s-2w M. Fox, Magnolia Pet. Corp. 5 dry
23-1s-3w Lewis, Magnolia Pet. Corp. 2 200
29-1s-3w Ratliff, Humble O. & R. Co. 2 dry
35-4s-2e Miller, Magnolia Pet. Corp. 1 dry
18-1s-3w N. Hardin, Magnolia Pet. Corp. 3 32
11-2s-3w Lyles, Schermerhorn et al 2.. 225
21-2s-3w Morris, Skelly Oil Co. 1 .... dry
23-1s-3w Gabrial, Magnolia Pet. Corp. 1 80
Wells completed 10
Production 762
Dry 4

GARFIELD COUNTY

19-23-3w Garber, Marland Oil Co. 1 .. 457
Whipple, Marland Oil Co. 1 ..1432
Wilcox, Skelly Oil Co. 1 588
25-22-4w Frickenschmidt, Sinclair O. & G. Co. 12 41
31-21-5w Vanderwork, E. A. Summers 1 dry
Wells completed 5
Production 2518
Dry 1

GRADY COUNTY

35-5-8w Duke, Stogner et al 4 ..... gas
14-4-8w Pettit, Twin State Oil Co. 2 .. gas
16-3-5w Smith, Hannon & Cox 2 ..... dry
21-3-5w E. Kerans, Carter Oil Co. 2 .. dry
21-3-5w Hicks, Amerada Pet. Co. & W. H. Gant 7 ..... dry
35-3-5w Scharmack, Carter Oil Co. 2 .. 25
23-5-8w K. Farwell, Oklahoma Gas Utilities Co. 1 ..... gas
12-4-8w Woods, Watchorn O. & G. Co. 1 gas
13-4-8w Glover, The Texas Company 1 gas
8-3-5w Byrd, Carter Oil Co. 1 ..... dry
35-3-5w Scharmack, Carter Oil Co. 3 .. dry
7-3-5w Nash, Carter Oil Co. 2 31
8-3-5w R. Horton, Carter Oil Co. 3 .. 25
16-3-5w Burke, Marland Oil Co. 4 52
17-3-5w Woods, Marland Oil Co. & Joe Ray 3 252
22-3-5w Finch, Carter Oil Co. 2 7
35-3-5w Cochran, Carter Oil Co. 1 .... dry
27-5-8w Chandler, Nichlos Drlg. Co. 4 gas
35-5-8w Dryden, Magnolia Pet. Corp. 3 gas
14-4-8w Pendley, E. P. Harwell 1 .... gas
18-4-6w W. Homer, Garvin Drlg. Co. 1 dry
15-3-5w Waltord, Carter Oil Co. 8 .. 170
Wells completed 22
Production 562
Dry 7
Gas 8
Gas production 222,000,000

KAY COUNTY

3-28-4 C. C. Stallings 1 ..... dry
17-29-1e Brockhouser, Vernon O. & G. Co. 6 ..... gas
19-29-1e Piper, Vernon O. & G. Co. 1.. dry
26-26-2w Williams, Palmer et al 1 .... dry
30-28-1e Lane, Greer et al 1 25
19-27-1w Gaylor, Marland Oil Co. 2 ... dry
5-28-1w McCullough, Comar Oil Co. 5 dry
6-28-1e Wolfe, McComas et al 1 .... dry
8-27-1w Jameson, Harris & Haun 1 ... 2½
19-27-1w Gaylor, Marland Oil Co. 4 ... gas
29-27-1w Rembe, Larutan G. & F. Co. 1 gas
9-25-2w Chambers, Gypsy Oil Co. 2 .. wry
Chambers, Gypsy Oil Co. 3 .. 80
Wells completed 13
Production 107
Dry 7
Gas 3
Gas production 8,333,000

MUSKOGEE COUNTY

20-15-16 Woodall, Ernest Price 2 10
20-15-18 McIntosh, A. A. Lange et al 1 dry
34-14-17 Smith, J. L. Slusher 1 ..... dry
7-14-19 Cobb, J. Henigman 2 ..... dry
28-15-15 Sango, Hillside O. & G. 9.... 75
7-14-19 Reed, C. M. Bradley 1 ..... dry
8-15-15 Barnett, P. Boyle et al 3 60
28-15-17 Taylor, J. M. Foltz 1 ..... dry
6-14-19 Rittenden, W. J. Metzger et al 6 ..... dry
5-14-19 Hicks, Sunray Oil Corp. 1 .... dry
7-14-19 Kell, J. W. Hale et al 1 ..... dry
Wells completed 11
Production 145
Dry 8

OKFUSKEE COUNTY

15-11-11 Jacobs, Champlin O. & R. 7. 300
17-10- 9 Hammer, Mid-Cont. Pet. 1 .. gas
30-11-10 Grayson, Empire G. & F. 1.. dry
19-11-11 M. Barnett, Riverland Oil 1 1065
35-11-11 Tiger, Umborn et al 1 ..... gas
5-10-10 Davis, Roger & Wilson 1 ..... dry
Wells completed 6
Production 1365
Dry 2
Gas 2
Gas production 52,000,000

OKMULGEE COUNTY

20-16-14 Mayfield, X. K. Stout et al 5 40
34-14-12 Vierson, T. A. Johnson 1..... dry
9-15-13 Hawkins, Transcontinental Oil Co. 2 ..... dry
9-15-14 Ware, Carr Peterson 3..... gas
18-14-15 Rentie, R. B. Church 1-A .. 6
28-13-14 Doyle, Trout Drlg. Co. 3 12
21-15-15 Watson, E. J. Lambert 2 .... gas
5-11-13 Grayson, A. Moffit 1..... dry
16-15-11 Belisle, G. T. Roberts 4..... 30
17-15-12 Long, J. J. Lee & Sons 1 .... dry
7-14-13 Lacey, Sperry & Son 6 ..... dry
32-13-11 Thomas, Denver P. & R. 11 .. gas
33-13-13 Jones, A. G. Hazlett 4 ..... dry
7-12-12 Wilson, Independent O. & G. 4 gas
13-11-13 Kanard, B. Morgan 9 ..... gas
36-16-13 Ackley, DeWitt-Baldridge Oil Co. 1-A ..... gas
24-15-11 Soule, Anadarko Western Oil 1 dry
1-14-12 Perryman, Jordan & Thompson 1 ..... dry
18-15-13 Long, Kirkland & Son 2 ..... gas
16-15-14 McKinney, Denton & Marshall 1-A ..... gas
10-14-14 Stevens, J. L. Selby 9 10
17-15-13 Bell, Kirkland & Son 7 10
10-15-14 Skidmore, W. B. Pine 2 15
6-14-13 Doyle, Hutchinson & Becker 4. 8
16-14-14 Colbert, J. W. Sharpe et al 4 18
26-13-11 Voorhies, Lakeside O. & G. 1 dry
21-13-15 Sango, E. J. Lambert 2 ..... gas
19-12-13 Burgess, Bison O. & G. 2 30
Wells completed 28
Production 179
Dry 9
Gas 9
Gas production 41,900,000

OSAGE COUNTY

31-29-12 Simon et al 4..... 5
34-27- 6 Kewanee O. & G. 6 300
5-27-11 Osage Gas Prod. Co. 381 ..... gas
34-23- 9 M. & T. Oil 4 30
6-21-12 Okla. Nat. Gas Corp. 775 ..... gas
17-29-11 Winona Oil Co. 450..... 5
34-27- 6 Kewanee O. & G. 7 100
17-27-11 I. T. I. Oil 380..... gas
33-21-10 Devonian Oil Co. 2..... 30
1-20-10 Sand Springs Home 107 ..... dry
20-21-10 Sand Springs Home 108..... dry
6-21-12 Kewanee O. & G. Co. 3 ..... dry
28-27- 6 Gypsy Oil Co. 7..... 363
34-27- 6 Kewanee O. & G. Co. 4 787
27-27-10 I. T. I. Oil Co. 100..... dry
3-26- 6 Kewanee O. & G. Co. 2... 1245
6-21-12 Okla. Nat. Gas Corp. 778 ..... gas
Wells completed 17
Production 2866
Dry 4
Gas 4
Gas production 4,500,000

PAYNE AND LINCOLN COUNTIES

4-18- 5 ——, Shaffer O. & R. 1 ... gas
33-17- 4 Ward, Empire O. & R. 2-A.. dry
31-17- 5 Betts, T. P. C. & O. Co. 1.... 570
36-16- 5 School land No. 38, Magnolia Pet. Co. 1..... dry
10-18- 5 Strip, T. J. Hughes 1..... gas
8-18- 4 Douglas "B," Twin State Oil 1 dry
7-14- 4 Teleford, Magnolia Pet. 1.... dry
Wells completed 7
Production 570
Dry 4
Gas 2
Gas production 13,000,000

PONTOTOC AND GARVIN COUNTIES

25- 5- 6 Patterson, Gillette & Kruger 1 5
15- 5- 8 Gilmore, Snowden & McSweeney 1 ..... dry
17- 5- 8 Parker, W. R. Ramsey 1..... 792
16- 5- 8 Yoakum, Shaffer O. & R. 3... dry
10- 4- 6 Sales, American O. & G. 1-A.. dry
28- 5- 8 Copeland, LaSalle Oil et al 2. 40
17- 5- 8 Milner, Homaokla Oil 1..... 432
Milner, Homaokla Oil 2... 390
20- 5- 8 Webb, W. R. Ramsey 3..... 630
Perry, Louisiana O. R. 4 537
Warfle, Louisiana O. R. 3 727
27- 5- 6 Daniels, American O. & R. 1.. dry
17- 5- 8 McElroy, Louisiana O. R. 2... 650
20- 5- 8 Webb, W. R. Ramsey 2..... 720
Wells completed 14
Production 4923
Dry 4

POTTAWATOMIE COUNTY

5- 9- 5 Butts, Independent O. & G. 1. dry
Roger, The Texas Company 5 1215
8- 9- 5 Knapp, Independent and Darby 7 1030
24- 7- 3 Harper, Magnolia Pet. 1..... 390
15- 7- 4 J. Robbins, Magnolia Pet. 1... gas
P. Robins, Magnolia Pet. 1.... 314
14- 7- 4 Hambly, Independent, Darby and Gypsy Oil 1..... 172
22- 7- 3 Ricker, Roxana Pet. 1..... dry
5- 9- 5 Roger, The Texas Company 2. 30
16- 9- 5 Day, Pure Oil Co. 1 ..... dry
9- 9- 5 Watkins, Tidal Oil 8 145
9- 9- 5 Bryant, Magnolia Pet. 6 265
5- 9- 5 Roger, The Texas Company 4. 120
4- 9- 5 Cowden, Magnolia Pet. 6..... 64
Cowden, Amerada Pet. 8..... 120
Cowden, Amerada Pet. 3..... 165
19- 7- 4 Doyle, Mid-Cont. Pet. 7..... 380
14- 7- 4 Standridge, Independent and Darby 2 916
10- 7- 4 Duff, Atlantic, Independent and Darby 1..... 150
9- 9- 5 Bryant, Magnolia Pet. 5..... 120
Gibson, Barnsdall Oil 8..... 45
19- 7- 4 Doyle, Continental Oil 3..... 1130
Wells completed 22
Production 6771
Dry 3
Gas 1
Gas production 15,000,000

ROGERS COUNTY

9-21-17 McElyea, Webber and Quall Oil Co. 6 8
Williams, Webber, Thompson et al 2 ..... dry
8-21-17 Berryhill est., Ray G. Clemont et al 1 ..... dry
16-24-18 Davis, M. O. Davis 1 ..... gas
20-24-16 Gillmore, Tidal Oil Co. 15 1
16-24-18 Firtz, M. O. Davis 1 ..... gas
4-21-17 Bradley, W. O. Dickens 1.... dry
9-21-17 Starret, Cooley 1 ..... dry
Winegardner Bros., Weber, Thompson et al 2 90
24-22-16 Long, Byall et al 1 3
16-24-18 Kaurs, M. O. Davis 1 ..... dry
17-24-17 Miller, Wellsville Oil 20 .... dry
Miller, Wellsville Oil 21 1
1-24-16 Lee, A. E. Lynch 1 1
Wells completed 14
Production 104
Dry 6
Gas 1
Gas production 2,600,000

SEMINOLE COUNTY

1- 9- 5 Ingram, Barnsdall Oil 4 125
Ingram, Barnsdall Oil 5 471
Ingram, Barnsdall Oil 7 1193
Sango, Gypsy Oil 2 40
Sango, Gypsy Oil 3 1192
2- 9- 5 Kays, Continental and Darby 1 430
Kays, Continental and Darby 2 1950
3- 9- 5 Edmundson, Empire G. & F. 4 dry
Edmundson, Empire G. & F. 5 dry
10- 9- 5 Brown, Barnsdall Oil 2..... 1188
Peters, Gypsy Oil 5..... 140
11- 9- 5 J. Davis, Barnsdall Oil 3 1248
11- 9- 5 B. Carter, Gypsy Oil 4 705
Gaines, Independent and Margay 3 ..... dry
Holmsley, Magnolia Pet. 7 360
12- 9- 5 Sullivan, Magnolia Pet. 1 379
25- 9- 6 Wilkins, Mid-Kansas Oil 2 314
D. Harjo, Tidal Oil 3 130
26- 9- 6 Bowlegs, I. T. I. Oil 6..... 76
36- 9- 6 Strothers "B," Pure Oil 4 ... 904
Strothers "B," Pure Oil 7.. dry
3- 8- 6 Chupco, Phillips Pet. 1 ..... dry
11- 8- 6 Strothers "D," Pure Oil 4.... 180
Ellen, Sinclair O. & G. 3 1008
Ellen, Sinclair O. & G. 7 522
13- 8- 6 Grayson, Gypsy Oil 3..... 217
16- 8- 6 Taylor, Roxana Pet. 7 ..... dry
22- 8- 6 Bowlegs, I. T. I. Oil 1 200
26- 8- 6 Hull, I. T. I. Oil 2 366
36- 8- 6 Campbell, Gypsy Oil 2..... 1545
Fish, Carter Oil 1..... 1300
29- 8- 8 M. Walker, Independent O. & G. 2 150
32- 8- 8 R. Jones, Magnolia Pet. 7 40
1- 7- 6 Jackson, I. T. I. Oil 2 2402
House, Tidal Oil 2..... 1705
7- 9- 8 Cully, Mid-Cont. Pet. 3..... 2
25- 9- 6 Harjo, Independent O. & G. 4 400
Gross, Empire O. & R. 3..... 42
Gross, Empire O. & R. 5..... dry
15- 9- 5 Anderson, Amerada Pet. 5 ..... dry
12- 9- 5 Noble, Gypsy Oil 4 1492
11- 9- 5 B. Carter, Gypsy Oil 10 772
B. Carter, Gypsy Oil 9..... 42
10- 9- 5 Willmott, The Texas Company 1 235
Sullivan-Harjo, Barnsdall Oil Co. ..... dry
1- 9- 5 Clark, Shaffer O. & R. 4 97
3- 8- 6 Jacksey, Sinclair O. & G. 1 ..... dry
23- 8- 6 Burden, Carter Oil 1..... 150
22- 8- 6 Billington, I. T. I. Oil 4.... 96
15- 8- 6 Goforth, I. T. I. Oil 6 80
14- 8- 6 Reed, The Texas Company 15 .1440
Harjoche, Carter Oil 8..... dry
11- 8- 6 Cordell, Magnolia Pet. 1 .... dry
Jones, Gypsy Oil 1..... 542
Jones, Carter Oil 3..... dry
Jones, Carter Oil 2..... 2730
Dees, Carter Oil 1..... dry
35- 8- 6 Dungan, I. T. I. Oil 3 2276
11- 9- 5 Stidham "A," Prairie O. & G. 8 150
Stidham "B," Prairie O. & G. 10 100
Stidham "A," Prairie O. & G. 11 270
Stidham "A," Prairie O. & G. 12 500
Stidham "A," Prairie O. & G. 13 470
17-10- 6 Bruner, Prairie O. & G. 1.... dry
13- 9- 5 C. Davis, Prairie O. & G. 4.. 880
25- 9- 6 Gross, Empire O. & R. 4 16
22- 8- 8 M. Drake, Phillips Pet. 1..... gas
15- 8- 8 W. Davis, Independent O. & G. 1 ..... dry
33-10- 6 Saloche, Mid-Cont. Pet. 3 1200
12- 8- 6 Templeton, Prairie O. & G. 4..2720
2- 7- 6 Houpce, Prairie O. & G. 3 2000
23- 7- 6 Hotulke, Independent O. & G. 1 2360
2- 7- 6 Hyde, Twin State Oil 2..... dry
Hyde, Twin State Oil 1..... dry
Nitey, Amerada Pet. 3..... 2185
Nitey, Amerada Pet. 2..... 1315
Nitey, I. T. I. Oil 9..... 215
Nitey, I. T. I. Oil 6..... dry
Nitey, I. T. I. Oil 7..... 4144
House "B," I. T. I. Oil 2 1506
House "B," I. T. I. Oil 3 1080
1- 7- 6 Coker, The Texas Company 2. 105
Alex, Philmack Oil 1..... dry
Soketheche, I. T. I. Oil 2..... 480
McCulla, I. T. I. Oil 3..... 764
14- 8- 6 Strothers "D," Pure Oil 8.... dry
36- 8- 6 Wadsworth, Mid-Cont. Pet. 8 .. 690
Wadsworth, Mid-Cont. Pet. 5 .. 800
Phoebe "A," I. T. I. Oil 1 .. 978
35- 8- 6 Hull, Pure Oil 1..... dry
13- 8- 6 Davis, Magnolia Pet. 2..... 1072
12- 8- 6 Smith, Mid-Cont. Pet. 2 100
11- 8- 6 Strothers "D," Pure Oil 5 ..... dry
9- 8- 6 Bradley, Gypsy Oil 1..... 132
Jones, Atlantic O. P. Co. 2.... 525
8- 8- 6 Lawson, Amerada Pet. 1..... dry
7- 8- 6 Doser, Gypsy Oil 1..... 1120
10- 9- 5 Wilmott, The Texas Company 3 75
Brown, The Texas Company 4 60
2- 9- 5 Sango, Sinclair O. & G. 1.... 2935
1- 9- 5 Ingram, Barnsdall Oil 6..... 2400
Ingram, Barnsdall Oil 3..... 100
12- 8- 6 Templeton, Prairie O. & G. 2. 400
Templeton, Prairie O. & G. 3 915
1- 9- 5 Sango, Gypsy Oil 4 1085
2- 9- 5 Anderson, The Texas Company 1 225
12- 9- 5 Paine, Carter Oil 4..... 230
Dixon, Magnolia Pet. 3..... dry
34- 9- 5 Karr, Empire G. & F. 1..... dry
3- 9- 6 Strothers, Amerada Pet. 2.... 627
4- 9- 6 Cluck, Wilcox O. & G. 7.....1014
36- 9- 6 Strothers "B," Pure Oil 8.... dry

9- 8- 6 Melisa, Carter Oil 1.....1335
12- 8- 6 Smith, Mid-Cont. Pet. 4..... 400
13- 8- 6 Davis, I. T. I. Oil 3..... dry
Fay, I. T. I. Oil 1..... 759
15- 8- 6 Bowlegs, Carter Oil 3..... dry
36- 8- 6 Cosar, Continental Oil 1..... 600
Wadsworth, Mid-Cont. Pet. 6 1950
Phoebe "B," I. T. I. Oil 2... 805
Phoebe "B," I. T. I. Oil 3... 721
1- 7- 6 Wadsworth, Gypsy Oil 1 30
McCulla, I. T. I. Oil 2..... 622
Soketheche, I. T. I. Oil 3....1088
Soketheche, I. T. I. Oil 4..... dry
Smith, Roxana Pet. 1..... 40
Coker, The Texas Company 1 255
Coker, The Texas Company 3 780
2- 7- 6 Nitey, Amerada Pet. 4 1070

Wells completed 129
Production 76,118
Dry 29
Gas 1
Gas production 12,000,000

STEPHENS AND COTTON COUNTIES

27-1s-8w Taliaferro, Harry Hanbury 5... 35
34-1s-8w Simpson, McAlester & Ware 1 40
6- 1-4w Gray, Prairie O. & G. 1..... dry
12-2s-8w Massey, Owen & Wood 4..... dry
12-1s-4w Brittain, Cameron Ref. Co. 2 230
15-1s-5w March, Mudge Oil Co. 1..... dry
34-2s-6w Prentiss, Pearce & Brown 2 dry
31- 1-8w Morgan, Magnolia Pet 4..... dry
27-1s-8w Taliaferro, Tom Medlin 1-A.. 60
15-1s-8w Howey, Magnolia Pet. 1-A... dry
11-3s-6w Florence, Dameron et al 1.... dry
10-3s-5w Edwards, Cuohy et al 1..... 10

Wells completed 12
Production 375
Dry 7

WAGONER COUNTY

12-18-17 McIntosh, A. A. Williams 5.... dry
10-17-16 Hawkins, Knox & Shouse 1..... dry
6-17-15 Kelly, Dickerson, W. O. 7..... dry
32-18-16 Woodward, P. Boyle et al 2.. dry
12-17-16 Harris, Knox & Shouse 1..... dry

Wells completed 5
Dry 5

TULSA COUNTY

18-19-10 Bemore, Holmes et al 2..... 20
11-17-12 Glenn, A. J. Spears 6..... 35
5-17-13 Smith, Suppees 4..... dry
3-16-12 Sanderson, S. W. Anthony 7... dry
20-17-13 Berryhill, Enfisco Oil 1..... 3
4-19-11 Gates, Sand Springs Home 2.. dry
21-19-12 Sango, Jackson & Wise 2..... 25
3-16-12 Sanderson, S. W. Anthony 8... gas

Wells completed 8
Production 88
Dry 3
Gas 1
Gas production 3,000,000

MISCELLANEOUS COUNTIES

McIntosh County—
20-12-15 McGilbray, W. F. Sessions et al 1..... dry
11-12-15 Perryman, Aggas & Sessions 3 dry
Perryman, Aggas & Sessions 4 dry
16-12-15 Fishee, W. F. Sessions 2..... dry

Pawnee County—
10-20- 6 Kline, Privett Drlg. Co. 2..... 60
5-20- 8 Walls, Shelts et al 2..... 20

Jefferson County—
18-7s-5w Trout, Denton, Lash & McCall 1..... 20

Logan County—
9-18-4w Lovell, Brown & Blevins 1... dry

Beckham County—
28- 9-23w Beagle, Magnolia Pet. 2..... gas

Kingfisher County—
25-17-5w Pool, Ramsey Bros. 1..... dry

Nowata County—
32-27-16 Wittock, Glass, Weaver & Wittock 5..... 15
24-26-15 Foster, John M. Shipley et al 4 40
30-26-17 Higgins, Meridian Oil 10..... gas
28-26-17 Secondin, Frank Anderson 1... 5
25-26-16 Long, Osage Valley Oil 11 ... dry

Washington County—
8-26-13 Hughes, M. Tyler 1..... 10
17-28-14 Holland, Keener O. & G. 13.. 5
16-25-14 McKissick, W. Tye 2..... 2
17-28-14 Scott, Keener O. & G. 1..... 1

Wells completed 20
Production 178
Dry 7
Gas 3
Gas production 38,540,000

CARTER COUNTY
Rigs

19-1s-3w Eason, Atlantic O. P. Co. 1.
11-2s-3w J. C. Brooks, Magnolia Pet. 1, 2.
C. E. Brooks, Magnolia Pet. 1, 2.
13-1s-3w Hardin, Magnolia Pet. 5.

Wells Drilling

19-1s-3w McCrany, Magnolia Pet. 2.
20-1s-3w Tivis, Magnolia Pet. 1.
33-1s-3w Anderson, Magnolia Pet. 1.
29-1s-3w Ratliff, Magnolia Pet. 2.
Spears, Humble O. & R. 2.
30-1s-3w Akers, Magnolia Pet. 1.
33-1s-3w Choens, Magnolia Pet. 1.
2-2s-3w Calvery, Schermerhorn et al 4.
21-2s-3w Morris, Magnolia Pet. 2.
6-2s-2w Higgins, Coline Oil 6.
7-2s-2w Higgins, Coline Oil 9.
26-2s-2w Harman, Magnolia Pet. 1.
33-4s-1w Simpson, Magnolia Pet. 1.
13-4s-2w Sarasota, Roxana Pet. 1.

Shut Down

19-1s-3w Hardin, Magnolia Pet. 8.
19-1s-2w Morris, McGahee et al 1.
2-5s-3w Frazier, Roxana Pet. 1.
Rigs, 6; wells drilling, 17; total, 23.

CREEK COUNTY
Rigs

36-15- 7 Bigpond, Devonian Oil 5.
Bigpond, Olean Pet. Co. 4.
18-19- 9 Clark, Roxana Pet. 2.
22-18-11 Burnett, McCulloch Oil 1.
24-18-11 Strip, Miller et al 1.
13-17-10 Littlehead, Ted Ray Oil 2.
20-17-10 Wiley, F. C. Adams et al 1.
30-17-10 Sneed, Independent O. & G. 2.
35-17-10 Bucktrot, Hiram O. & G. 5.
9-17-11 Weaver, Nancy Bell Oil 1-A.
6-17-12 Hengst, Andrews Drlg. Co. 1.
2-16-11 Anthis Twin, State Oil 3.
33-15- 9 Marshall, C. G. Tibbens 1.
29-14- 9 Abraham, The Texas Company 1.
18-14-10 Dixon, Wilcox O. & G. 4.
Kimble & Reading, Wilcox O. & G. 1.
Wolfe, Wilcox O. & G. 5.

Wells Drilling

12-19- 8 Porter, J. B. Grieves 4.
20-18- 7 Wacoche, Sinclair O. & G. 9.
22-18- 8 Cloud, C. O. Buckles 1-A.
17-17- 7 Tiger, Gibson & Becker 2.
13-17- 8 Harjo, Olean Pet. Co. 2-A.
14-17- 8 Tucker, Alvard & West 1.
21-16- 8 Arysalle, Peters Pet. Co. 4.
36-15- 7 Strip, Bu-Vi-Bar Pet. 2.
3-15- 8 West, Bu-Vi-Bar Pet. 1.
10-15- 8 Lewis, F. R. Billingslea et al 2.
Miles, H. C. Wilson 1.
15-15- 8 Barnett, Twin State Oil 1.
16-14- 7 Nero, Bu-Vi-Bar Pet. 1.
30-14- 8 McGilbra, Olean Pet. 5.
2-19- 9 Unallotted, Ed Lee et al 2.
7-19- 9 Tahkaney, Dixie Oil 1.
31-18-10 Barnett, Madden & Madden 1.
35-18-10 Thompson, Tom Kelly 1.
23-18-11 Aubrey, A. E. Purser 1.
24-18-11 Strip, Kennedy & Horner et al 2.
25-18-11 Tiger, Kennedy & Horner et al 3.
32-18-11 Miller, Drew O. & G. 1.
1-17-10 Unallotted, Henry Oil et al 2.
10-17-10 Hay, Stover et al 2.
13-17-10 Thomas, Jackson & Wise 2.
Thomas, O. M. Irelan et al 1.
Smiles, Ted Ray Oil 2.
Fulson, Pontiac Oil 10.
14-17-10 Baker, Pontiac Oil Co. 1.
11-17-12 Glenn, A. J. Spears 7.
21-16- 9 Hendrickson, Jackson & Wise 8.
23-16-10 Rea, Curtis Oil et al 2.
35-16-10 Fore, Murta & Cole 1.
2-16-11 Strip, The Texas Company 1.
7-14- 9 Sneed, The Texas Company 2.
25-14- 9 Tye, Wood Oil Co. 1.
18-14-10 Harjo, Mid-Cont. Pet. 1.
Wolfe, Independent O. & G. 3, 4.
Harjo, Producers & Refiners 2, 5.
6-15- 7 Hicks, Prairie O. & G. 1.

Shut Down

35-19- 7 Jessie, H. U. Bartlett 13.
24-19- 8 Knight, Gled Oil Co. 3.
10-15- 8 Bruner, Skelly Oil 1.
35-18- 9 Strip, Roach et al 1.
14-18-11 Tiger, O. S. White et al 1-A.
11-17- 9 Yarhola, Roxana Pet. 1.
24-17-10 Bucktrot, Pioneer Pet. 14.
9-16-10 Shreffner, Sibble & O'Hare 1.
10-14-10 Ramsey, F. A. Havel et al 1-A.
17-14-10 Peters, Edgewood Oil 2.
33-17-12 Gilcrease, Prairie O. & G. 2.
Rigs, 17; wells drilling, 53; total, 70.

GARFIELD COUNTY
Wells Drilling

9-24-6w White, Pulse & Reamer 1.
14-24-3w Garsarsh, Sagar Oil 1.
24-24-3w Disney, Marland Oil 1.
Stoner, Champlin Ref. Co. 1.
15-23-3w Barnes, Oil States Ref. Co. 1.
19-23-3w Wilcox, Amerada Pet. 1.
Garber, Marland Oil 2.
30-23-3w Rhodes, Marland Oil 1.
23-22-4w Smith, Reynolds 1.
25-22-4w Hoy, Sinclair O. & G. 23.
26-22-4w Wells, Chas. Knox 1.
18-22-3w Hartley, Sinclair O. & G. 19.
2-20-5w Fee, Sinclair O. & G. 1.
9-20-4w Looman, Marland Oil 1.

Shut Down

3-22-5w Swinery, Ashby & Barr 1.
14-22-4w Dively, Chappel et al 4.
26-22-4w Doak, T. T. Eason et al 1.
12-21-4w Schriver, Beopple et al 1.
12-20-4w Miller, Marland Oil 1.
Rigs, 0; wells drilling, 19; total, 19.

GRADY COUNTY
Rigs

23- 5-8w Sanford, Okla. Gas Utilities Co. 2.
26- 5-8w Smith, Okla. Natl. Gas Corp. 4.
1- 4-8w Woods, Farley et al 1.
11- 4-8w Williams, Magnolia Pet. 3.
17- 3-5w Woods, Carter Oil 3.

Wells Drilling

11- 5-8w Mohrett, Magnolia Pet. 1.
22- 5-8w Tendell, Badgett & Hughes 1.
23- 5-8w Farwell, Okla. Gas Utilities Co. 2.
McCaughtry, Stogner et al 10.
34- 5-8w Schott, J. B. Nichols 1.
35- 5-8w McCaughtry, Noble & Westerfield 4.
McCaughtry, Okla. Gas Utilities 2.
36- 5-8w Rogers, Watchorn O. & G. 1.
16- 5-7w Steelman, John Graham 1.
3- 4-8w Kayser, Rockstool et al 1.
10- 4-8w Ramsey, Meridian Gas 1.
1- 4-8w Dryden, Prairie O. & G. 4.
10- 4-8w Ramsey, Magnolia Pet. 1.
11- 4-8w Pettitt, Watchorn O. & G. 5.
17- 4-6w McCosland, Garvin Drlg. Co. 1.
5- 3-5w Hawkins, Carter Oil 2.
8- 3-5w Ray Horton, Carter Oil 1.
16- 3-5w Burke, Marland Oil 3.
17- 3-5w B. A. Horton, Carter Oil 5.
Woods, Marland Oil and Joe Ray 1, 2, 3.
28- 3-5w Wilde, Joe Anderson 1.
34- 3-5w Nation, Hall & Briscoe 5.
Wham, Magnolia Pet. 1.
35- 3-5w Scharmack, Carter Oil 4.

Shut Down

13- 9-5w Fulton, Remington et al 1.
13- 7-5w Kemp, Bedman et al 1.
25- 5-8w Spencer, Nichols & Al 1-A.
35- 5-8w Dryden, J. B. Nicholos 1.
7- 5-7w Drake, Nicholos & Page 1.
27- 4-6w Ponds, Amerada Pet. 1.
Rigs, 5; wells drilling, 32; total, 37.

GRANT COUNTY
Rigs

14-27-3w Elswick, Kay Oil 2.
15-27-3w Hodson, Croxton & Bucklin 1.

Wells Drilling

35-28-3w Henn, Joe Lathrop et al 1.
Frantz, Marland Oil and Wagoner 1.
36-28-3w School land, Washoma and Roxana Pet. 1.
2-27-3w Coffelt, Northern Utilities 1.
14-27-3w Howell, Argo Oil 2.
15-27-3w Swaggart, Argo Oil 1.
Swaggart, Argo Oil 2.
22-27-3w Lane, Blackwell O. & G. 4.
23-27-3w Crouch, Blackwell O. & G. 3.
16-26-3w Sherrer, Markham & Flannagan 1.
22-25-4w Vallner, Cowden 2.
22-27-3w Lane, Prairie O. & G. 3.

Shut Down

6-28-3w Snyder, Otstot Dev. Co. 1.
18-27-3w Custard, J. W. Bailey et al 1.
23-27-3w Flood, Larutan G. & F. Co. 1.
34-26-4w Royce, Sooner State Oil 1.
Rigs, 2; wells drilling, 16; total, 18.

HUGHES COUNTY
Rigs

14- 7- 8 Jacobs, W. R. Ramsey 3.

Wells Drilling

20- 5- 9 Wickett, Noble O. & G. 1.
20- 8-10 Russell, Prairie O. & G. 1.
17- 8-10 Cornelius, Dixie Oil 3.
Bruner, I. T. I. Oil 1.
18- 8-10 Irving, Independent O. & G. 5.
19- 8-10 Alexander, Carter Oil 6.
21- 7- 8 Street, Jarvis Holmes 1.
20- 5- 9 Wickett, Noble O. & G. et al 1.
8- 5- 8 Smith Ramsey Bros. 1.
20- 8-10 Hampton, Prairie O. & G. 3, 4.
16- 9- 9 Bruner, McCulloch Oil 1.
11- 5- 8 Stewart, T. P. C. & O. Co. 1.
Rigs, 1; wells drilling, 13; total, 14.

KAY COUNTY
Rigs

16-29-1w Brown, Comar Oil 1½.
36-28-1w School land No. 76, Ivan Otstot et al 1.
20-27-1w Blackwell County Club, Wentz Oil Corp. 1.
29-27-1w Rembe, Larutan G. & F. Co. 2.
2-25-2w Kirwan, Barnsdall and Margay Oil 1.

Wells Drilling

15-29-1w Henszel, Harris & Hahn 3.
22-29-1w Frost, Harris & Hahn 4.
25-29-1w Tickle, Harris & Hahn 1-A.
17-29-1e Shimp, Carter Oil and Ona Oil 5.
E. Dickerson, Marland Oil 1-A. 2.

Shut Down

Brockhouser, Vernon O. & G. 4.
25-28-1w Whiteside, Blackwell O. & G. 1.
30-28-1w Warren, Geo. Dickey 1.
18-28-1e Nix, Blackwell O. & G. 11.
29-28-1e Elder, Fred Morgan 1.
30-28-1e Lane, Greer et al 2.
31-28-1e Naylor, Greer et la. 1.
5-27-1w Fox, Dewey & Hoffer 1.
8-27-1w Harris, Globe O. & R. Co. 1.
9-27-1w Kumler, Blackwell O. & G. 5.
Brown, Harris & Hahn 3, 4.
17-27-1w Jameson, Carter Oil 3.
30-27-1w Woods, The Texas Company 1.
12-26-2w Diller, Marland Oil 3.
32-26-2e McNeal, J. Vincent and National Union Oil 1.
9-25-2w Chambers, Marland Oil 4.
29-25-1w Smith, The Texas Company 1.
10-25-1e Anderson, Miller Bros. 1.
36-27-1w Pratt, Prairie O. & G. 1.

Shut Down

21-29-1w Priboth, Comar Oil 2.
28-29-1e Swenson, Empire G. & F. 1.
15-25-1w McDaniels, Tonkawa Dev. Co. 1.
Rigs, 5; wells drilling, 29; total, 34.

LOGAN COUNTY
Rigs

20-19-4w Shaffer, Twin State Oil 1.
16-18-4w McDaniels, Roxana Pet. 1.

Wells Drilling

8-19-4w Musgrove, Champlin O. R. Co. 1.
17-19-4w Freelove, Roxana Pet. 1.
18-19-4w Weber, Sinclair O. & G. 1.
29-19-4w Stephens, Roxana Pet. 1.
Ross, Roxana Pet. 1.
30-19-4w Sebranek, Roxana Pet. 1.
31-19-4w Williams, L. H. Wentz 1.
32-19-4w Williams, Roxana Pet. 1.
33-19-4w ——, Bryan & Emery 1.
16-18-4w Gragg, Marland Oil 1.
27-18-4w Jewell, T. P. C. & O. Co. 1.
28-18-4w Knecht, Sinclair O. & G. 1.
29-18-4w Gragg, Healdton O. & G. 1.
33-18-4w Smith, Ramsey Bros. 1.
Moore, Prairie O. & G. 1.
33-18-3w Quier, Haley and Pioneer Pet. 1.
28-17-1e Berry, T. B. Slick 1.
12-15-1w Kirkpatrick, Bu-Vi-Bar Pet. 1.

Shut Down

11-18-4w Hall, Welch, Acton & Brown 1.
28-18-4w Sode, Blackwell O. & G. 1..
33-18-4w Speaks, T. P. C. & O. Co. 1.
20-17-1e Signs, T. B. Slick 1.
28-16-1w Lair, Blackford O. & G. 1.
Rigs, 2; wells drilling, 23; total, 25.

MUSKOGEE AND WAGONER COUNTIES
Rigs

17-15-17 Warrior, W. R. Sommerville 4.
36-15-18 Deer, C. S. Hully 2.
3-14-18 Townlot, W. J. Metzger et al 1.
6-14-19 McDaniel, J. W. Hale et al 1.
5-13-16 Flowers, J. R. Graves et al 1-A.

Wells Drilling

30-18-15 Tiger, Bu-Vi-Bar Pet. 1-A.
1-18-17 Hawkins, Towner & Witte 1.
11-18-17 Wilson, C. M. Bradley 1.
21-17-15 Dan, Shaffer O. & R. 1.
36-17-17 Cane, C. R. Cane et al 1.
23-16-16 Jameson, Peterson & Young 1.
28-15-15 Sango, Hillside O. & G. 10.
30-15-15 Townsend, Vise & Heflin 2.
32-15-15 Austin, Link Oil 2.
9-15-16 Rulison, H. W. Lampton 2.
28-15-16 Beams, Jack Summers 2.
17-15-17 Sango, H. E. Williams 3.
34-15-18 Townsite, C. M. Bradley 1.
34-15-18 Manuel, J. G. Buell 1.
19-14-16 Reed, Vogler & Lughtner 2.
27-14-16 Cherry, O. T. Gilbertson et al 4.
6-14-17 Fewel, J. L. Slusher et al 1.
22-13-15 Grayson, E. J. Lambert 2.

Shut Down

11-19-15 Lynch, J. H. Winters 1.
31-19-15 Barnett, Elk Drlg. Co. 3.
1-18-17 Wilson, Sheldon Oil Co. 1.
21-18-17 Childers, H. D. McCracken 7.
Hosmer, H. O. McCracken 4.
F. Hosmer, A. Chapman 1.
22-18-17 Childers, Baldridge et al 1.
19-18-18 Colbert, A. Chapman 2.
30-17-18 Cane, J. H. Sorella 4.
21-15-15 Serrell, C. A. Lovelace et al 1.
12-15-18 Jobe, C. F. Finefield 1.
12-14-18 Davis, J. L. Dixon et al 4.
6-14-19 Crittenden, C. B. Crittenden 1.
Timberlake, J. W. Hale et al 2.
34-13-17 McKee, Elk Drlg. Co. 1.
33-13-18 Linder, L. T. Haynie 1.
4-13-19 Carver, W. R. Sommerville 1.
Rigs, 5; wells drilling, 35; total, 40.

OKFUSKEE COUNTY
Rigs

28-12-10 Johnson, Sands Pet. Co. 1.
33-12-11 McCoy, Josey Oil 20, 21.
35-11- 9 Wind, Gilcrease Oil 2.
14-11-10 Brooks, Terrian et al 1.
29-10- 9 Morris, Mid-Cont. Pet. 1.

Wells Drilling

17-10- 9 Strain, Prairie O. & G. 1.
23-11-11 Unallotted, Carter Oil et al 2.
34-12- 8 Knight, Transcontinental Oil 1.
8-12-10 Yarhola, Blakely et al 1.
12-12-10 Ginda, J. Burns 3.
33-12-11 McCoy, Josey Oil 13, 16.
Fields, Josey Oil 3.
36-11- 9 Deer, Burk-Greis 3.
13-11-11 Barnett, E. W. Kimberly 1.
14-11-11 Ingram, Champlin O. & R. 2.
15-11-11 Washington, Champlin O. & R. 4.
22-11-11 Holmes, Champlin O. & R. 7.
24-11-11 Barnett, E. L. Robinson et al 13.
30-11-11 Holmes, Independent O. & G. 1.
Holmes, Minnehoma Oil 2.
Holmes, Riverland Oil 2.
26-10- 9 Carolina, Barnsdall Oil 1.
Sango, Future Dev. Co. 1.
21-10- 9 Dwyer, Schermerhorn et al 1.
22-10- 9 Simon, Fuhrman & Shaffer 2.
21-13- 9 Self, Barnsdall Oil 1.

Shut Down

33-12-11 McCoy, Josey Oil 12, 18, 19.
4-11-10 Stidham, Moose & Daniels 1.
11-11-11 Hopwood, Ted Savoie et al 1-A.
3-10-11 Scott, W. L. Umburn 2.
Rigs, 6; wells drilling, 28; total, 34.

OKMULGEE COUNTY

19-16-14 Grayson, Savoy Oil 3.
19-14-11 Bugg, White Eagle O. & R. et al 2.
7-12-12 Wilson, Independent O. & G. et al 5.
4-11-12 Hawkins, Weir 3.
32-11-12 Ashbury, Colorado Oil 2.
8-15-13 Jimmy, Kirkland & Son 3.
9-15-14 Tucker, T. H. McBrayer 1.
Smith, Sheedy & McBrayer 1.
26-13-12 Bradford, Prairie O. & G. 1.

Wells Drilling

29-16-13 Stanley, McCulloch Oil 2.
23-15-11 Bruner, LeBeane et al 2.
2-15-12 George, Campbell & Beams 1.
12-14-12 Warren, A. C. Saint et al 1-A.
19-13-11 Phillips, G. Colvin et al 2.
15-13-12 Skelton, Seldon Oil et al 2.
5-12-12 Bird, Eagle-Picher Lead Co. 1.
9-12-12 Milliken, Kessler & Logan 4.
7-11-12 Holmes, Moffett et al 5.
17-11-12 Summers, F. Smith 1-A.
6-15-13 Scott, Farrell & Lavery 1.
20-15-14 Rowe, A. W. Cline 1-A.
14-14-14 Colbert, J. E. Wallace 4.
23-14-14 Thomas, J. L. Powell 4.
1-13-13 Curus, W. B. Pine 1.
27-11-13 Thompson, G. N. Buzzard et al 1
8-12-12 Bird, Morgan et al 1.

Shut Down

20-16-12 Fee, J. Crider 1.
6-11-12 Hawkins, Moffatt et al 7.
9-14-14 Love, Riney & Williams 2.
27-14-15 Smith, Apex Pet. Co. 1.
11-13-13 Galther, Carey Jennings 4.
32-13-14 Simmer, A. Shelton 2.
13-11-13 Kanard, B. Morgan 10.
Rigs, 9; wells drilling, 24; total, 33.

OSAGE COUNTY
Rigs

7-27- 6 Phillips Pet. Co. 2.
20-27- 6 A. G. Oliphant 6.
3-26- 6 Kewanee O. & G. 7.
15-26- 8 Stephenson Henry & Rock 1.
4-25- 6 Kay County Gas Co. 1.
21-25- 6 Sinclair O. & G. Co. 8.
26-25- 9 Peters Pet. Co. 2.
9-23- 7 Kay County Gas Co. 3.
19-23- 7 Prairie O. & G. Co. 1.
21-23- 9 C. B. Peters 1.
17-23-10 Delmar Oil Co. 4.
23-22-10 Elm Oil Co. 15.

Wells Drilling

1-28-10 M. M. Lefever 14.
17-27- 6 Phillips Pet. Co. 5.
Peters Pet. Co. 8.
Phillips Pet. Co. 2, 3, 4, 5.
20-27- 6 A. G. Oliphant 3, 4, 5.
28-27- 6 Gypsy Oil Co. 3.
34-27- 6 Kewanee O. & G. Co. 9, 10.
7-27- 9 C. B. Peters 1.
17-27-11 I. T. I. Oil Co. 386.
21-27-11 I. T. I. Oil Co. 376.
22-27-11 Peters Pet. Co. 3.
34-27-11 I. T. I. Oil Co. 382.
11-26- 6 Geo. Parker 2, 4.
25-26-11 I. T. I. Oil Co. 51.
29-26-11 I. T. I. Oil Co. 378.
35-26-11 I. T. I. Oil Co. 383.
22-25- 7 Geo. Parker 1.
27-25- 9 Marland Oil Co. 3.
10-25-10 I. T. I. Oil Co. 375.
20-26-12 I. T. I. Oil Co. 384.
22-24- 7 Kay County Gas Co. 2.
7-24- 8 Galt Brown 1.
11-24-11 Geo. Tselos 3.
36-22- 8 H. H. Mundy 2.
20-21-12 Elliott & Smith 13.
33-21-12 Okla. Natl. Gas Corp. 776.
28-20-10 Sand Springs Home 109.

Shut Down

26-29-11 Kewanee O. & G. Co. 1.
34-27- 6 Kewanee O. & G. Co. 5, 6.
Kewanee O. & G. Co. 5, 6, 7.
25-26- 8 City of Pawhuska 21.
27-25- 9 Sam Sitrin 14.
7-23-10 Sheeders O. & G. Co. 1.
6-21- 9 A. D. McConnell 1.
34-25- 9 Marland Oil Co. 2.
Rigs, 12; wells drilling, 45; total, 57.

PAWNEE COUNTY

27-34- 4 Edwards, Garber & Pulse 2.
8-20- 7 Townsite, Turner et al 1.

Wells Drilling

33-23- 3 Miller, Watchorn O. & G. 4
9-22- 3 Arkeketa, Watchorn O. & G. 1.
8-21- 6 Barber, Dixie Oil Co. 1.
16-21- 6 School land, F. R. Billingslea and 101 Ranch Oil 2.
16-21- 7 Wells, R. Freeman 1-A.
20-21- 7 Scott, Superior Oil Co. 1-A.
28-21- 8 Lucas, Garber, Pulse et al 1.
3-20- 6 Garner, Privett Drlg. Co. 2.
15-20- 6 Coota, Magnolia Pet. 4.
22-20- 9 Hemming, T. E. Mann et al 1-A.
29-20- 9 Smelser, Turner et al 1.
20-20-10 Ward, Sheridan Oil Co. 1.
21-20-10 Bush, Miller & Mooney 1.
Rigs, 2; wells drilling, 13; total, 15.

PAYNE AND LINCOLN COUNTIES
Rigs

23-18- 5 Pearson, Home Gas Co. 2.

Wells Drilling

15-19- 5 ——, Fern O. & G. Co. et al 1.
35-19- 5 Eagle, Wood Oil Co. 1.
1-18- 5 Benson, Home Gas Co. 3.
24-18- 5 Peters, Oleo Pet. Co. 1.
31-17- 5 Skinner, Shaffer O. & R. 1-A. 2.
5-16- 5 Dahlke, T. P. C. & O. Co. 1.
6-16- 5 Lindsey, I. T. I. Oil Co. 2.
10-15- 5 Jacobs, Magnolia Pet. 1.
8-14- 4 Gillian, Magnolia Pet. 2.

Shut Down

32-18- 3 Widows, Garber, Pulse & Gloyd 1.
20-17- 3 Gunn, Willis O. & G. Co. 1.
16-13- 4 School land, Bu-Vi-Bar Pet. 1.
Rigs, 1; wells drilling, 13; total, 14.

PONTOTOC COUNTY
Rigs

17- 5- 6 McDaniel, Sinclair O. & G. 1.
36- 5- 7 Mount, Barber Oil Co. 1.
Gilcrease, Shaffer O. & R. 1-A.
17- 5- 8 Harjo, Louisiana O. R. Corp. 6.
20- 5- 8 Perry, Louisiana O. R. Corp. 6.
Warfle, Louisiana O. R. Corp. 5.
Webb, W. R. Ramsey 4.
Patterson-Harjo, W. R. Ramsey 4.
29- 5- 8 Patterson, W. R. Ramsey 1.
10- 4- 4 Lawrence, Marland Oil 1.

Wells Drilling

29- 5- 5 Lewis, Jolly-Ogg Oil Co. 1.
21- 5- 6 Cox, Conservative O. & G. Co. 1.
25- 5- 6 Patterson, Gillette & Krueger 2.
27- 5- 6 Miller, T. C. & O. Co. 1.
28- 5- 6 Brown, Conservative O. & G. 1.
Norris, Conservative O. & G. 1.
34- 5- 6 Wray, American O. & R. 4.
16- 5- 8 Yoakum, Shaffer O. & R. 4.
17- 5- 8 McCall, Homaokla Oil 3, 4, 5.

Milner, Homaokla Oil 4.
Harjo, Louisiana O. R. Corp. 4.
McElroy, Louisiana O. R. 3, 4, 5.
Rose, Winkler & McQueen 1.
Parker, W. R. Ramsey 2.
McElroy, W. R. Ramsey 1, 2.
Milner, W. R. Ramsey 2-A, 3.
18- 5- 8 Milner, W. R. Ramsey 4.
19- 5- 8 Wade, Max Westheimer 1.
Hutcheon, T. P. C. & O. Co. 1.
20- 5- 8 Perry, Louisiana O. R. Corp. 1, 5.
Patterson-Harjo, W. R. Ramsey 1, 2, 3.
Shields, Whitney et al 1.
Warfle, Denver O. & R. Co. 1.
29- 5- 8 Harjo, W. R. Ramsey 1.
30- 5- 8 Butler, W. R. Ramsey 1-B.
33- 5- 8 Watson, Homaokla Oil 2.
9- 4- 6 Balcrop, American O. & R. 6.
13- 4- 6 Wright, American O. & R. 1.
25- 4- 7 Potter, Ada Cement Co. 1.

Shut Down

12- 5- 4 Fleming, Gillespie et al 1.
27- 5- 6 Miller, American O. & R. 1.
21- 5- 8 Shipley, W. R. Ramsey 1.
29- 5- 8 Smith, Jack Kilgore 1.
35- 4- 6 Rayborn, Bowles et al 1.
14- 4- 7 Johnson, Henry et al 1.
Rigs, 10; wells drilling, 44; total, 54.

POTTAWATOMIE COUNTY
Rigs

8- 9- 5 Knapp, Independent and Darby 8.
13- 7- 4 Wallace, Magnolia Pet. 1.
Kelly, Magnolia Pet. 1.
19- 7- 4 Spangy, Twin State Oil 5.
25- 7- 4 Smith, Mid-Cont. Pet. 1.
25- 7- 3 Bledsoe, Prairie O. & G. 1.

Wells Drilling

22-11-2e Hollis, Wilcox O. & G. 1.
22-11-2e Pickard, Wilcox O. & G. 1.
28-10- 4 Toney, Central National Oil 1.
16-10- 5 School land, Clark Edwards et al 1.
2- 9-2e Scott, McCulloch Oil 1.
27- 9- 4 Hamblin, W. B. Pine 1.
4- 9- 5 Cowden, Magnolia Pet. 4, 5.
5- 9- 5 Roger, The Texas Company 3.
9- 9- 5 Gibson, Barnsdall Oil 7.
Watkins, Tidal Oil 4, 5, 7.
32- 9- 5 Harber, Independent O. & G. 1.
24- 8-2e Jones, Superior Oil 1.
13- 7- 3 Wilson, Magnolia Pet. 1.
25- 7- 3 Crawford, Magnolia Pet. 1.
36- 7- 3 School land No. 75, Magnolia Pet. 1.
School land No. 76, Magnolia Pet. 1.
School land No. 77, Magnolia Pet. 1.
11- 7- 4 Billington, Magnolia Pet. 2.
13- 7- 4 Vlenk, Magnolia Pet. 1.
15- 7- 4 Milburn, Atlantic, Independent and Darby 1.
19- 7- 4 Talley, Magnolia Pet. 2.
Spangy, Twin State Oil 4.
20- 7- 4 Thompson, C. J. Wrightsman 1.
22- 7- 4 Shaw, Darby Pet. 1.
23- 7- 4 McGee, Gypsy Oil 1.
LeClair Independent and Darby 1.
24- 7- 4 Davis, Magnolia Pet. 1.
Claude, Superior Oil 1.
26- 7- 4 Davis, Pierce Oil et al 4.
Ward, Pierce Oil 1.
Doyle, Pure Oil 5.
7- 7- 5 Bowers, Sinclair O. & G. 1.
18- 7- 5 Bullock, Magnolia Pet. 1.
Hembree, Prairie O. & G. 1.
19- 7- 5 Harper, Magnolia Pet. 1.

Shut Down

12-10-3e Ives, Sikes, Kilgore and Shaffer O. & R. 1.
16- 8- 5 School land, I. T. I. Oil 1.
19- 6-2e McCahey, Davis & Detrick et al 1.
Rigs, 5; wells drilling, 42; total, 47.

SEMINOLE COUNTY
Rigs

34-10- 6 Harjoche, Empire G. & F. 1.
2- 9- 5 Sango, Sinclair O. & R. 2.
Hearn, Twin State Oil 4.
13- 9- 5 Hyde, Magnolia Pet. 1.
24- 9- 5 Gross, Amerada Pet. 1.
Stidham, Gypsy Oil 1.
21-10- 7 M. Davis, Prairie O. & G. 1.
1-10- 5 Lumley, Prairie O. & G. 1.
25- 9- 5 Harris, Empire G. & G. 1.
8- 8- 6 Micco, Carter Oil 1.
9- 8- 6 Vanbuskirk, Magnolia Pet. 2.
10- 8- 6 Taylor, Sinclair O. & G. 1.
11- 8- 6 Jones, Carter Oil 4.
Jones, Twin State Oil 3.
12- 8- 6 Smith, Mid-Cont. Pet. 8.
Templeton, Prairie O. & G. 5.
13- 8- 6 Davis, Magnolia Pet. 5.
14- 8- 6 Reed, The Texas Company 14.
2- 7- 6 Davis, Barnsdall Oil 2.
Nitey, I. T. I. Oil 10, 11.
3- 7- 6 Walker, Twin State Oil 1.
7- 7- 6 Palmer, Simon & Beam 1.
8- 7- 7 Johnson, Sinclair and Darby 1.
19- 7- 7 Cecil, Gypsy Oil 1.

Wells Drilling

33-11- 8 Pierce, Continental Oil 1.
33-10- 6 Saloche, Mid-Cont. Pet. 4.
21-10- 7 Soloman, Gypsy Oil 1.
15-10- 8 Epply, Snowden & McSweeney 1.
1- 9- 5 Ingram, Barnsdall Oil 2, 8.
Sango, Barnsdall Oil 2, 3, 4.
Sango, Carter Oil 3, 4.
Sango, Gypsy Oil 1, 5.
Clark, Shaffer O. & R. 2, 3, 5, 6, 7.
2- 9- 5 Bruner, Barnsdall Oil 2.
Kays, Continental Oil and Darby Pet. 3.
Anderson, The Texas Company 2, 3, 4, 5, 6, 7.
Hearn, Twin State Oil 2, 3.
3- 9- 5 Rogers, Amerada Pet. 3, 4.
Edmundson, Magnolia Pet. 2, 4.
10- 9- 5 Bruner, Barnsdall Oil 4.
Pack, Barnsdall Oil 3.
3- 9- 5 C. Graham, Prairie O. & G. 4.
10- 9- 5 Sullivan, Independent O. & G. 5.
Brown, The Texas Company 7, 8.
Wilmott, The Texas Company 6, 8.
11- 9- 5 Davis, Barnsdall Oil 3.
J. Davis, Barnsdall Oil 4.
B. Carter, Gypsy Oil 11, 12.
M. Gaines, Independent and Margay 2.
Holmsley, Magnolia Pet. 2, 8.
12- 9- 5 Wasutke, Barnsdall Oil 4.
Baker, Empire G. & F. 2.
Dixon, Magnolia Pet. 4.
Seay, Magnolia Pet. 6, 7, 8, 9, 10.
Sullivan, Magnolia Pet. 3, 4.
Hollins, Sinclair O. & G. 4.
Barker, Twin State Oil 6.
14- 9- 5 Anderson, Mid-Kansas Oil 2, 4.
3- 9- 6 Frazier, Carter Oil 7.
Johnson, Carter Oil 1.
Aldridge, Pure Oil 6.
Strothers, Roxana Pet. 2, 3, 4.
Polly, Sinclair O. & G. 4.
4- 9- 6 Davis, Carter Oil 5.
Cudjo, Gypsy Oil 4.
Varnum, Superior Oil 1.
Fleet, The Texas Company 1.
Jeming, Twin State Oil 2, 3.
Cluck, Wilcox O. & G. 8.
26- 9- 6 Fixico, Tidal Oil 8.
27- 9- 6 Townsite, Smith et al 1.
35- 9- 6 Butler, Gypsy Oil 4.
36- 9- 6 Stephens, Magnolia Pet. 1.
6- 9- 8 Buchner, Jarvis & Holni 1.
18- 9- 7 Stubbs, Prairie O. & G. 1.
7- 9- 8 Cobb, Independent O. & G. 2.
Hill, Independent and Amerada 2.
10- 9- 8 Butner, Jarvis & Holni 1.
14- 8- 5 Fife, Barnsdall Oil 1.
9- 8- 6 Bradley, Amerada Pet. 1.
Vanbuskirk, Magnolia Pet. 1.
Jones, Sinclair O. & G. 5, 6, 7.
10- 8- 6 Harjoche, Gypsy Oil 1.
Hammond, Magnolia Pet. 1, 3.
Strothers "F," Pure Oil 2, 3.
Cumsey, Sinclair O. & G. 3, 4.
Harjoche, Tidal Oil 3, 5, 7.
Harber, Prairie O. & G. 8.
11- 8- 6 Strothers "D," Pure Oil 7.
Ellen, Sinclair O. & G. 6.
12- 8- 6 Smith, Devonian Oil 1.
Rhodes, Magnolia Pet. 1, 2.
Smith, Mid-Cont. Pet. 1, 3, 5.
13- 8- 6 Grayson, Atlantic O. P. Corp. 2, 4.
Fay, I. T. I. Oil 7, 8, 9.
Davis, Magnolia Pet. 3, 4.
Davis, Magnolia Pet. 1.
Grayson, Tidal Oil 4.
14- 8- 6 Harjoche, Carter Oil 3.
Lacey, Empire G. & F. 3, 8.
Reed, The Texas Company, 12, 13.
Bowlegs, Carter Oil 3-A.
15- 8- 6 Walker, Carter Oil 2, 3-A, 4.
Bowlegs, Minnehoma Oil 4.
21- 8- 6 McClesey, Carter Oil 1.
Coker, Independent and Marland 4.
22- 8- 6 Bowlegs, Mid-Cont. Pet. 2.
23- 8- 6 Burden, Carter Oil 2, 3.
Hilly, Carter Oil 2, 3.
Barnett "B," I. T. I. Oil 1.
Burden, I. T. I. Oil 1.
24- 8- 6 Work, I. T. I. Oil 2.
34- 8- 6 Aldridge, Prairie O. & G. 1, 2.
35- 8- 6 Pattey, Amerada Pet. 2, 3.
Nitey, Blackwell O. & G. 7.
Pattey, Gypsy Oil 2, 3.
Dungan, I. T. I. Oil 4.
Fore, I. T. I. Oil and Phillips Pet. 1, 2.
Pattey, Magnolia Pet. 1, 2, 3, 4.
Pattey, W. B. Pine and Phillips Pet. 1, 2, 5.
Dungan, Producers & Refiners 2, 3.
Hull, Pure Oil 2.
36- 8- 6 Fish, Carter Oil 2, 3, 4, 5, 6.
Phoebe "A," I. T. I. Oil 2, 3.
Phoebe "B," I. T. I. Oil 1, 4.
Wadsworth, Mid-Cont. Pet. 4.
Cesar, Sinclair O. & G. 1.
Marcume, Shaffer O. & R. 1.
11- 8- 6 Jones, Prairie O. & G. 5, 7.
31- 8- 7 Dixon, Magnolia Pet. 1.
15- 8- 8 Sewell, Independent, Champlin and Bass 2.
31- 8- 6 Casey, Carter Oil 10.
32- 8- 8 Franz, Magnolia Pet. 6.
R. Lena, Magnolia Pet. 6.
1- 7- 6 Monger, Gypsy Oil 1.
Camp, I. T. I. Oil 1.
McCulla, I. T. I. Oil 1.
Soketheche, I. T. I. Oil 1, 7.
Gosey, Magnolia Pet. 1.
House, Tidal Oil 3.
2- 7- 6 Nitey, Amerada Pet. 1.
Nitey, I. T. I. Oil 3, 5, 12.
Cruse, Magnolia Pet. 1.
House, Prairie O. & G. 1.
Davis, Philmack and White Eagle 2.
11- 7- 6 Jackson, Carter Oil 1.
13- 7- 6 Tiger, Snowden & McSweeney 1.
27- 7- 6 Manuel, Mid-Cont. Pet. 1.
5- 7- 7 Smith, Mid-Cont. Pet. 1.
32- 7- 7 Marshall, T. I. Oil 1.
1- 6- 6 Moore, T. B. Slick 1.
5- 6- 7 Vierson, Magnolia Pet. 1.
18- 6- 8 Phillips, Carter Oil 1.
18- 5- 8 Reed, Louisiana O. & R. 1.

Shut Down

26-10- 5 Turner, Sorry & Swartz 1.
3- 9- 5 Rogers, Amerada Pet. 5.
12- 9- 5 Barker, Twin State Oil 2, 3, 5.
4- 9- 6 Lulu, W., Pine 1.
15- 9- 7 Jonah, Pure Oil 1.
3- 9- 8 Butler, Empire G. & F. 1.
24- 9- 5 Baker, Prairie O. & G. 2.
3- 9- 5 C. Graham, Prairie O. & G. 2, 5, 6.
22- 8- 6 Bowlegs, Prairie O. & G. 1.
5- 8- 6 Seminole, Gypsy Oil 1.
35- 8- 6 Nitey, Blackwell O. & G. 4.
36- 8- 6 Fish, Carter Oil 7.
15- 8- 8 Sewell, J. E. Crosbie 2.
1- 7- 6 Soketheche, I. T. I. Oil 6.
2- 7- 6 Alexander, Phillips Pet. et al 1.
22- 7- 6 Hotulka, Barnsdall Oil 1.
Rigs, 25; wells drilling, 220; total, 245.

STEPHENS AND COTTON COUNTIES
Rigs

36- 2-9w School land, Clark & Cowden 1.
34-1s-10w Smith, Jenkins et al 2.
30-1s-9w Fox-See, Magnolia Pet. 1.
29-1s-8w Black, Clarkson & Smith 2.
12-2s-8w Fobb "C," Pure et al 2.
13-1s-4w Matrin, Magnolia Pet. 1.
Shields, Schermerhorn et al 1.

Wells Drilling

11- 2-5w Iserwood, Carter Oil 4.
1- 1-9w Ball, Jefferys et al 1.
31- 1-8w Bryner, Smith & Law 5.
32- 1-8w Morgan, Magnoli aPet. 2.
2- 1-5w Parker, Magnolia Pet. 1.
27-1s-10w Lindsey, Howe & Leeper 2.
19-1s-9w Darrance, Hurley et al 1-A.
27-1s-8w Cummings, McAlester et al 2.
Wilkinson "B," Pearce & Brown 1.
30-1s-8w Brigham, Beard & Cobb 1.
34-1s-8w Nigh, Ellis Drlg. Co. 4.
Fee, Hupp & Duff 2.
8-1s-5w Parker, Magnolia Pet. 1.
23-1s-5w Jones, Magnolia Pet. 1.
12-2s-8w Massey, Owen & Wood 6.
18- 1-4w Chrisholm, Magnolia Pet. 1-A.
12-1s-4w Perkins, Humble O. & R. 1.
13-1s-4w Bell, Magnolia Pet. 1.
15-1s-4w Aldridge, Magnolia Pet. 1.
25-1s-4w Peddycourt, C. R. Smith 1.

Shut Down

29-1s-8w Blaydes, Clarkson & Smith 1.
22-2s-11w Koehler, J. W. Ray 1.
24-1s-4w Inscore, Gilmer Oil 1.
Rigs, 7; wells drilling, 23; total, 30.

TULSA COUNTY
Rigs

21-19-12 Perry, A. A. Davis 3.
9-18-13 Bruner, Minshall O. & G. 3.
3-16-12 Sanderson, S. W. Anthony 9.

Wells Drilling

15-18-11 Fife, Lockwood et al 1.
33-19-11 Hodge, Anadarko Western Oil 1.
23-19-12 Clinton, Posey Short 2.
35-19-13 Wray, Glidden Oil 1-A.
16-19-14 Franklin, Carl Dresser 1.
28-19-14 McIntosh, S. F. Mallory et al 1.
10-18-12 Cohwee, Munn Bros. 2.
15-16-12 Johnstone, J. Crider et al 1.

Shut Down

24-19-10 Ragen, Holmes et al 1.
27-19-11 Russell, Sheridan Oil 2.
1-17-13 Taylor, E. A. Hawley 1.
6-17-13 Oswalt, Hilt et al 5.
32-17-14 Billy, L. C. Butler 2.
Rigs, 3; wells drilling, 13; total, 16.

MISCELLANEOUS COUNTIES
Rigs

Beaver County—
22- 4-25ecm Maple, O. H. Bonner et al 1.
Kingfisher County—
6-17-7w Campbell, Pet. Engineering Core Drlg. Research Co. 1.
McIntosh County—
3-12-15 Bray, Beggs O. & G. 3.
Sequoyah County—
12-12-23 Ralph, Hunt et al 1.
Jefferson County—
23-6s-6w Ryan, Ed Cox 1.
Murray County—
27-1s-2e Freeman, Thompson Oil Corp. 1.
Wells Drilling and Shut Down
(Shut Down wells indicated by *)
Harper County—
24-27-21w Selman, A. F. Kopison Oil 1*
14-25-22w Cooper, Hoffer Oil 1*.
Woods County—
20-27-15w Marcum, Sooner State Oil and E. R. Black 1*.
Noble County—
29-24-1w Reed, Midco Oil Corp. 6*.
1-22-2w White, K. D. Oil 4.
15-21-2w Sams, Magnolia Pet. 1*.
15-21-2w Pearson, Magnolia Pet. 1.
7-21-1w Williams, R. L. Corly 1*.
Cimarron County—
24-6-2ecm School land, Jake G. Phillips 1*.
22-5-2ecm School land, Sinclair O. & G. 1.
27-5-5ecm State land, Ramsey Bros. 1.
4-5-6ecm School land, Ramsey Pet. 1*.
34-4-1ecm School land, Ramsey Pet. D1.
25-3-7ecm Israel, Gladys Belle Oil 1.
2-2-9ecm Smaltz, Fenton, Brookins & Flowers 1*.
Texas County—
23-2-18ecm Graves, Connelly, Trammell & Danner 1*.
26-1-15ecm Hitch, Hydraulic Oil 1*.
5-1-19ecm Tansey, Trammell, Connelly & Danner 1*.
11-1-18ecm Price, Three Way Oil 1*.
Woodward County—
32-24-17w Simmons, Otstot Dev. Co. 1*.
15-21-19w ———, Burgoyne Bros. 1.
25-21-21w Elmore, Sharon Oil 1*.
Major County—
4-23-16w Parker, Henry Landon 1*.
Ellis County—
9-21-25w ———, Okla. Northern Oil 1.
Dewey County—
9-18-15w Perfect, Huckelby McCoy 1*.
Kingfisher County—
27-16-6w Sturgeon, McKenna & Crawford 1.
26-16-5w Johnson, Galt Brown Oil 1.
Canadian County—
9-14-6w Platt, A. D. Spears 1*.
1-10-6w Robinson, J. V. Bailey 1*.
Oklahoma County—
18-13-10w North, Carrell Oil 1*.
18-13- 3w Lufkin, Slick & Bailey 1.
15-12- 2w Thompson, Cromwell et al 1.
McIntosh County—
10-12-15 Bray, Beggs O. & G. 2*.
36-11-16 Bruner, J. E. Weible 1.
Pittsburg County—
32- 8-15 Smith, Pattison et al 2*.
Haskell County—
10- 9-18 Sanders, Marion Oil 1.
Latimer County—
15- 5-18 Murray, Limestone O. & G. 1*.
Cleveland County—
22-10-2w Donovan, Cromwell & Franklin 1*.
7- 9-1w Alexander, Galt Brown Oil 1.
26- 8-1e Woodrow Mid-Cont. Pet. 1*.
14- 7-1w Vandeer, Sooner Oil 1.
11- 6-1w Lefere, Magnolia Pet. 1*.
Beckham County—
20- 9-23w Rosenbaum, Fred Coogan 1.
21- 9-23w Ensey, Rubana Oil 1.
Thompson, Producers Synd. 1*.
24- 8-23w Davis, Sayer O. & G. 1*.
30- 9-23w Graves, Cal Wright et al 1.
32- 9-22w Barnes, G. & F. Pet. Co. 1*.
5- 8-23w ———, Price Bros., Martin and Atlantic O. P. 1*.
Greer County—
16- 7-22w Chiney, Magnolia Pet. 1.
Caddo County—
22- 6-10w Jacobs, English Drlg. Co. 1.
29- 6-12w Gilbreath, W. J. Hartley 1*.
4- 5- 9w Lemp, Garvin Drlg. Co. 1*.
5- 5- 9w Cutshall, Moran et al 1.
12- 5- 9w Rigney, J. P. Shelton et al 1*.
Comanche County—
10- 2-10w Skitler, Danciger O. & R. 1.
Kiowa County—
6-2s-16w ———, Landfair et al 1*.
Jefferson County—
20-6s- 6w Ryan, Amerada Pet. and W. H. Gant 1.
Garvin County—
15- 4- 1e Perkins, Dixie Oil 1.
10- 4- 3e Strickland, Garland Oil 1.
12- 3- 1e Vaughn, Magnolia Pet. 1.
31- 1- 3w King, Magnolia Pet. 1.
Burr, Magnolia Pet. 2.
Murray County—
17- 1- 2e Wolfe, Revels & McGee 1*.
Coal County—
35- 1- 8 Patton, W. E. McGraw et al 1.
Marshall County—
11-5s-4e Chapman, Bilbo Oil Co. 1*.
Bryan County—
26-5s- 7 Marshall, Magnolia Pet. 1.
Love County—
7-7s- 3 Askew, Magnolia Pet. 1.
Rigs, 6; wells drilling, 68; total, 74.

KANSAS FIELDS

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Anderson	8	233	..	..
Butler	5	200	4	..
Cowley	9	575	3	4
Greenwood	40	4.150	15	1
Labette	9	117	..	3
Montgomery	13	52	4	5
Sumner	28	7.393	8	1
Miscellaneous	25	271	11	2
Total November	137	12.991	45	16
Total October	82	4.540	26	5
Difference	55	8.451	19	11

Summary of Rigs and Wells Drilling

County—	Rigs	Drg.	Ttl.
Butler	4	19	23
Cowley	4	22	26
Elk	3	8	11
Greenwood	16	25	41
Marion	2	9	11
Sumner	11	24	35
Miscellaneous	13	67	80
Total November	53	174	227
Total October	39	178	217
Difference	14	4	10

ANDERSON COUNTY

15-21-20 Weiss, Oko O. & G. Co. 8.... 26
Weiss, Oko O. & G. Co. 9.... 22
Weiss, Oko O. & G. Co. 10.... 30
13-21-20 Ewing "B" Amer. Cont. Oil 21 10
18-21-21 Crozier, American Cont. Oil 7.... 70
American Cont. Oil et al 11.... 30
Babb, American Cont. Oil 12.... 20
Babb, American Con., Oil 13.... 15
Wells completed 8
Production 232

BUTLER COUNTY

4-27- 6 Shaffer, Rosenthal et al 7.... 200
12-22- 9 Evans, Basom et al 1.... dry
26-22- 9 Leedy, Basom et al 1.... dry
26-25- 5 Litchey, Reeder et al 1.... dry
36-27- 6 Figge, Liggett et al 4.... dry
Wells completed 4
Production 200
Dry 4

COWLEY COUNTY

39-30- 4 Titswor.h, Trees Oil Co. 1.... dry
7-32- 5 Biddle, Arkansas Fuel Oil 5.... gas
33-32- 7 Reynolds, Blue Stem Oil 2.... gas
7-33- 3 Thurlow "S," Barnsdall Oil 1. 500
8-33- 5 Bailey, Rossie Oil & Kitchell 1.. dry
31-34- 3 Johnson, Shawver et al 1.... gas
19-31- 3 Harness, Roxana Pet. Corp. 1 75
29-30- 5 Myers, Shawver et al 1.... dry
22-32-4 Winfield townsite, Wakefield et al 1 ..... gas
Wells completed 9
Production 575
Dry 3
Gas 4
Gas production 8,800,000

GREENWOOD COUNTY

15-22-12 Boles, Prairie O. & G. Co. 2.... 25
29-22-13 Fankhouser, McCullugh et al 1 dry
31-24-13 Dennis, Christy et al 2.... 50
10-25-13 Roglin, Bisagno e. al 1.... 100
3-26-10 Moore, Rogers et al 2.... dry
Townsite, Wahn et al 1.... 50
26-27- 8 Lewis, B. G. & M. Oil Co. 1.. dry
19-22-10 Pixlee, Transcontinental Oil 1 450
25-22-12 Ott, Empire O. & R. Co. 3.... 300
11-23- 9 Nuttle, Phillips Pet. Co. 1.... 75
35-25-10 Taylor, Polhamus et al 7.... 25
Hayes, Rogers et al 2.... 5
23-26- 9 Weirshing, Flintridge Pet. 3... gas
2-26-10 Wyant, Rogers et al 1.... 50
11-22-10 Shepherd, Manhattan Oil 5.... 350
24-22-10 Warrensburg, Skelly Oil Co. 1 dry
23-22-11 Bubx, Empire O. & R. Co. 17.. 10
24-22-12 Fankhouser, Darby Pe., Co. 4.. 275
30-22-13 Storrer, Federal Oil Co. 1.... 420
16-25-13 Hoggart, Mendenhall et al 1.. dry
25-22-12 Schwab, Empire O. & R. Co. 2 200
22-22-13 Wengler, Braden, McClure et al 2 40
30-22-13 Wenzler, Lab Roi Co. 1½ dry
Perrie, McCullough et al 1.. 260
5-23-12 Hollis, Jennings et al 1.... dry
15-24-14 Bowles, Simmons & Rhodes 1 dry
15-25-13 Roglin, Empire O. & R. Co. 1.. 10
23-26- 9 Weirshing, Flintridge Pet. 4.. dry
23-22-12 Fankhouser, Theta Oil Co. 1.. 320
25-22-12 Demler, Empire O. & R. Co. 1.. 360
Demler, Empire O. & R. Co. 1.... 50
Ott, Empire O. & R. 4.... 400
30-22-13 Schwab, Darby Pet Co. 1.... 300
Storrer, Federal Oil Co. 2.... dry
Schwab, Shaffer & Howell 1.. dry
7-25- 9 Wilkerson, Lassen et al 2.... 25
15-25-13 Brown, Cross et al 1.... dry
2-26-10 Fair Grand Ballard et al 1.. dry
Westphal, Wahn et al 1.... dry
33-27-13 Lesseny, Culp et al 1.... dry
Wells completed 40
Production 4150
Dry 15
Gas 1
Gas production 500,000

LABETTE COUNTY

7-34-17 Rainey, Shannon, Marshall & Gerrard 14 25
7-34-17 Rainey, Shannon, Marshall & Gerrard 13 ..... gas
7-34-17 Rainey, Shannon, Marshall & Gerrard 15 20
Rainey, Shannon, Marshall & Gerrard 16 25
Rainey, Shannon, Marshall & Gerrard 17 25
7-33-17 Shulthis, Henderson Oil Co. 1 2
7-34-17 Rainey, Marshall & Gerrard 20 gas
Rainey, Shannon, Marshall & Gerrard 21 ..... gas
Holman, Shannon, Marshall & Gerrard 7 20
Wells completed 9
Production 117
Gas 3
Gas production 400,000

MONTGOMERY COUNTY

23-34-15 Grass, O. O. Crane 3.... dry
20-34-17 Davis, Vergate Oil Co. 34.... 30
32-33-14 Mitchell, Amherst Oil Co. 26.. dry
1-34-13 Brown Land Co., J. P. Brady 5 dry
Brown Land Co., J. P. Brady 4 gas
2-34-13 Dunham, J. P. Brady 1.... dry
20-34-17 Fee, J. P. Burns, Trustee, 1.... 20
27-33-15 Taylor, John Harris 1.... gas
20-33-15 Schultis, Consolidate O. & G. 2 1
Canning, C'solidated O. & G. 2 1
7-33-15 Schulthis, Henderson Oil Co. 2 1
1-34-13 Brown Land Co., J. P. Brady 3 gas
Ryan, J. P. Brady 5 ..... gas
Wells completed 13
Production 52
Dry 4
Gas 5
Gas production 2,650,000

SUMNER COUNTY

25-31-2e Rutter, Roxana Pet Corp. 5.. 900
Mason, Roxana Pet. Corp. 5.. 150
11-32-2e Townsite, Jones et al 1.... dry
Townsite, Roxana Pet. Corp. 3 500
Townsite, Ramsey & Fine 1.. 30
12-32-2e Townsite, Noble et al 1.... 30
Townsite, Midco Oil Co. 1.... 30

14-32-2 Emerich, Roxana Pet. 2..... 500
Townsite, Roxana Pet. 1..... 170
Townsite, Roxana Pet. 2..... 193
Townsite, Stanley & Jarvis 1.. 800
Glassoway, Wasson et al 1.... 200
9-30-2w Love, Champlin O. & R. Co. 1.. 45
Latta "B," Champlin O. & R. 2 gas
36-31-2e Taton, Roxana Pet. Corp. 3.... 700
11-32-2e Oxford townsite, Flitch et al 1 dry
Oxford townsite, Fine et al 1.. dry
Oxford townsite, Shawver et al 1 800
12-32-2e Oxford townsite, Ozark Drilling Co. 1..... dry
Cravens, Palmer & al 1..... dry
Oxford townsite, Moore et al 1 dry
Oxford townsite, Trees Oil 1.. dry
14-32-2e Emerich, Roxana Pet Corp. 1.. 300
Community, Oxford townsite, Roxana Pet. Corp. 5..... 300
Oxford townsite, Roxana Pet. 4 900
Oxford townsite, Roxana Pet. Corp. 6 800
Van Winkle, Roxana Pet. 1.. 45
36-32-2e Jeffie, Roxana Pet. 1..... dry

Wells completed 28
Production 7392
Dry 1
Gas 1
Gas production 5,000,000

MISCELLANEOUS COUNTIES

Russell County—
22-13-15w Baxter, Keys Pet. Co. 1.... 100
6-15-15w Goraham, Streeter & Stearns 1 ..... dry
30-12-15w Austin, Mid-West Ref. 21.. 75
Chautauqua County—
12-32-10 Julian, Theta Oil Co. 1.... 15
Elk County—
17-29-10 Young, Arkansas Fuel Oil 1.. dry
31-31-10 Long, Union Gas Corp. 1..... gas
3-30-12 Willard, Landon et al 1..... dry
Saline County—
15-15-5w Holquest, Thrall et al 1..... dry
Dickinson County—
31-15-4 Dunlap, D. I. Hall 1..... dry
Marion County—
31-21-4 Townsend, Crow et al 2..... dry
Coffey County—
11-23-13 Hanner, Sheedy et al 2..... 20
Morris County—
16-17-5 Nelson, Phillips Pet. Co. 1..... dry
McPherson County—
32-18-2w Chinberg, The Texas Co. 1.. gas
Reno County—
35-22-10w Kessling, Pryor & Lockhart 1 dry
Wabaunsee County—
9-12-10 ——, Braden, McClure et al 1 dry
Crawford County—
24-29-24 Osage, R. L. Berlin 8..... 10
Neosho County—
28-28-19 Johnson, Bird O. & G. Co. 1 1
27-28-19 Johnson, Bird O. & G. Co. 2 3
Johnson, Bird O. & G. Co. 2 7
26-27-19 Bruiner, J. S. Winkler 12..... dry
Miami County—
15-17-21 Johnson, E. C. Johnson 3..... 5
Johnson, E. C. Johnson 2..... 5
Johnson, E. C. Johnson 1..... 5
Franklin County—
18-16-21 Carpenter, F. W. Hensick 12 25
Woodson County—
14-26-14 Rogers, Brinegar et al 1.... dry

Wells completed 25
Production 271
Dry 11
Gas 2
Gas production 7,750,000

BUTLER COUNTY

Rigs

25-26-5 Sluss, Lebow Travis et al 5.
20-26-5 Drum-Bitler, Rogers et al 17.
24-27-3 Buynsky, La Rosh Oil Co. 1.
24-28-6 Tavender, Liggett et al 1.

Wells Drilling

36-24-4 Watson, Appleman et al 1.
18-25-4 Joseph, Wichita Drlg. Co. 1.
21-25-4 Albers, Dixie Oil Co. 1.
22-26-4 Pyle, Blankenship et al 1.
31-26-6 Fisher, Prysse & McKenna 1.
1-27-6 Boline, Mid-Kansas Oil Co. 1.
Dixon, White Eagle O. & R. Co. 1.
5-27-6 Leon Bank, Rosenthal et al 1.
5-27-6 Doughty, Bronson et al 3.
Beedles, Keen et al 1.
6-27-6 Doughty, Mathews, Rals on et al 1.
13-27-6 Thompson, White Eagle O. & R. 1.
27-27-6 Stern, Cuatro & Blankenship 1.
30-28-7 Jones, Luett & Sheets 1.

Wells Shut Down

30-26-6 Unger, Payne & McKenna 1.
26-27-5 Bryson, Cress, Frank et al 1.
26-27-5 Covert, Reynolds et al 1.
21-28-5 Clubine, Madison et al 1.
21-29-4 Holcomb, E. Wilcox et al 1.
Rigs, 4; wells drilling, 19; total, 23.

COWLEY COUNTY

Rigs

22 32-4 Robertson, McNabb et al 1.
Matteson, Kuex Drlg. Co. 1.
33-32-7 Reynolds, Blue Stem Oil Co. 1.
10-32-4 Graham, Prairie O. & G. Co. 1.

Wells Drilling

3-30-3e Daniels, Vickers Pet. Co. 1.
29-30-3e Beard, Roxana Pet. Corp. 1.
29-13-4 Hughes, Brinn et al 1.
22-32-4 Graham, Vickers & Philmack Oil 1.
Moncreif, Roth & Faurot 1.
24-32-4 Nunman, J. A. Hull 2.
7-32-5 Biddle, Arkansas Fuel Oil Co. 4.
7-33-3e Patterson, Barnsdall Oil Co. 1.
17-33-3e Douthitt, Mannie et al 1.
32-33-4 Adams, Roth & Faurot 1.
24-33-6 Sandstrum, Little Martha Oil Co. 1.
19-34-3e Vesal, Shawver et al 1.

Wells Shut Down

20-30-2e Nave, Roxana Pet. Corp. 1.
20-30-6 Manley, Allison & Fitzwilliams 1.
4 31-5 Elliott, Tatlock & McCullough 1.
15-32-4 School land, Marland Oil Co. 2.
33-32-7 Graham, Doric Oil Co. 1.
5-33-5 Henderson, Boggs Drlg. Co. 1.
Bell, Neely O. & G. Co. 1.
4-33-7 Countryman, Forrester et al 3.
17-34-4 Hughes, Nathan & Brinn 1.
7-34-6 Gearheat, Pryor & Lockhart 1.
Rigs, 4; wells drilling, 22; total, 26.

ELK COUNTY

Rigs

4-30- 9 Denton, Elk Pet Co. 1.
12-30- 9 Donnell, Conley & Winemiller 1.
35-31-10 Lewis, Denman et al 1.

Wells Drilling

6-29-12 Flack, Elmwood & Phoenix Oil 1.
34-29-12 Van Royer, Willis et al 1.
3-30- 9 Denton, Watchorn O. & G. Co. 10.
22-30-10 Hugg, Elmwood Oil Co. and Phoenix Oil 1.
9-31-10 Eyman, Hood et al 2.
3-31-11 Elk Bank, Roth & Faurot 1.

Wells Shut Down

29-29-10 Mullendore, Ohio Fuel Oil Co. 1.
35-31-10 Cunningham, Griffeth, Bell et al 1.
Rigs, 3; wells drilling, 8; total, 11.

GREENWOOD COUNTY

Rigs

14-22-11 Duby, Empire O. & R. Co. 18.
24-22-11 Garth, Empire O. & R. Co. 4.
25-22-12 Demler, Empire O. & R. Co. 6. 5.
Schwab, Empire O. & R. Co. 3. 4.
26-22-12 Ott "B," Empire O. & R. Co. 2.
11-23- 9 Green, McGinnis et al 5.
36-24-10 Mock, McGinnis et al 5.
19-24-11 Freeman, Christler et al 2.
36-24-12 Steckle, Bisagno et al 1.
35-25-10 May, Polhamus et al 1.
2-26-10 Mills, Rogers et al 1.
3-26-10 Nicols, Higgins et al 1.
28-27-13 Smith, Culp et al 1.
11-22-10 Brown, The Prairie O. & G. Co. 1.

Wells Drilling

4-22-10 Pixlee, Ritchey & Moore 1.
10-22-10 Pixlee, Transcontinental Oil Co. 2.
11-22-10 Sheppard, Manhattan Oil Co. 6.
21-22-10 Prather, Skelly Oil Co. 2.
23-22-12 Fankhouser, The Ia Oil Co. 2.
24-22-12 Fankhouser, Darby Pet. Co. 5.
26-22-12 Ott "B," Empire O. & R. Co. 1.
30-22-13 Schwab, Darby Pet. Co. 2. 3.
Jenkins, Featherline et al 1.
Storrer, Federal Oil Co. 3.
36-24-12 Hoover, Christy et al 1.
12-25-10 Rockhill, Smally & Bement 1.
10-25-13 Roglin, McCullough et al 1.
Roglin, Valley Osage Oil Co. 1.
3-26-10 Hull, Paul et al 1.
4-27-11 Mills, McGinnis et al 1.
7-27-11 Cross, Mohawk Oil Co. 1.

Wells Shut Down

30-22-13 School lot, Davis e. al 1.
Lamont, Kanson Oil Corp 1.
Perrie, Blankenship Pet. Co. 1.
14-23- 9 Green, Murphy et al 5.
26-24- 9 Holverson, Polhamus et al 3.
2-26-10 Cummings, Higgins et al 1.
1-28-12 Hayes, Swanso net al 1.
Rigs, 16; wells drilling, 25; total, 41.

MARION COUNTY

Rigs

31-17-4 Uckers, Givens et al 1.
31-18-5 Benthe, Anderson et al, 1.

Wells Drilling

2-17-4 Mott, Harwood & Winters 1.
Ucker, Harwood & Winters 1.
15-17-4 McNicols, Harwood & Winters 1.
23-17-4 Weston, Lariaux et al 1.
9-20-4 Schlothour, Empire O. & R. Co. 1.
1-18-4 Hartke, The Texas Co. & G. Co. 1.

Wells Shut Down

20-18-4 Melcher, Show et al 1.
17-19-4 Reed, Frank et al 1.
1-21-1e Lehrman, Sunray Oil Co. et al 1.
Rigs, 2; wells drilling, 9; total, 11.

SUMNER COUNTY

Rigs

9-30-2w Latta "B," Champlin O. & R. Co. 3.
25-30-2w Bryan, De Frost Drlg. Co. 1.
25-31-2e Riverbed, Roxana Pet. Corp. 8.
Churchill, Roxana Pet. Corp. 9.
26-31-2e Jenkins, Roxana Pet. Corp and Washoma Oil 2.
14-32-2e Oxford townsite, Noble et al 1.
Spence, Derby Oil Co. 2.
Scroggins, Jarvis et al 2.
Oxford townsite, Roxana Pet. 4.
Oxford townsite, Mead et al 1.
9-35-1e Volker, Otstot et al 1.

Wells Drilling

9-30-2w Love, Champlin O. & R. Co. 2.
21-31-2e Stout, Globe O. & R. Co. 1.
25-31-2e Wiles, Roxana Pet. Corp. 4. 5.
Shore "B," Roxana Pet. Corp. 1.
26-31-2e Jenkins, Roxana Pet. Corp. 1.
35-31-2e Bussard, Davis & Hazle.t 1.
36-31-2e Wenrich, Roxana Pet. Corp. 3.
11-32-2e Oxford townsite, Roxana Pet. 9.
14-32-2e Oxford townsite, Derby Oil Co. 1.
Scroggins, Jarvis et al 2.
Oxford townsite, Roxana Pet. 3.
Oxford townsite, Roxana Pet. 7. 8.
Rothwell, Roxana Pet. Corp. 1.
Gassoway, Wasson et al 1.
23-32-2e Wenrich, Barnsdall Oil Co. 1.
24-32-2e Nevi.t, Phillips Pet. Co. 1.
25-34-2w Douglas, Gypsy Oil Co. 1.
11-24-4w Wycoff, Jarvis et al 1.
14-32-2e Spence, Derby Oil Co. 1.

Wells Shut Down

22-33-3w Bartlow, Ostot et al 1.
4-34-3w Wenrich, Jarvis et al 1.
18-35-1e Hamilton, Meridian Gas Co. 1.
Rigs, 11; wells drilling, 24; total, 35.

MISCELLANEOUS COUNTIES

Rigs

Harper County—
24-34-6w Mendenville, Amerada Pet. Corp. 1.
Jefferson County—
19-10-17 Simpson, Wichita Oil Co. 1.
McPherson County—
32-18-2w Chinberg, The Texas Co. 2.
Chinberg, Tatlock et al 1.
Morris County—
32-14-7 Barber, Klein et al 1.
18-15-5 Vendt, Faulders et al 1.
10-16-5 Blank, Moss & Nelson 1.
30-17-5 Nelson, Graham et al 1.
Pottawatomie County—
17-9-12 Stewart, Crawford et al 1.
31-9-12 Bratchbar, Crawford e. al 1.
Reno County—
6-22-4w Williams, Danciger et al 1.
Rooks County—
11-9-16w Tatkenhorst, Krueger et al 1.
Russell County—
32-13-15w Baxter, Mid-West Ref Co. 33.

Wells Drilling and Shut Down

(Shut Down Indicated byetaoshrdl (Shut-Down Wells Indicated by *)

Barber County—
27-30-14w Pickent, Rowland et al 1.
17-31-12w Win.ers, Merriman et al 1.
19-33-12w Boggs, Schaffer et al 1.
2-33-13w Carter, Shaffer et al 1.
Barton County—
6-18-12w Everleigh, Huffins & Crane 1.
17-19-11w Smith, Huffine et al 1.
12-20-13w Ward, Everette & Wiley 1*.
Chase County—
25-18-6 Lipps, Westfield O. & G. Co. 4.
36-18-6 Lipps, Kewanee O. & G. Co. 2.
9-21-7 Carson, Grener, Fowler et al 1*.
24-22-9 Crosby, Empire O. & R. Co. 1.
Clark County—
16-31-23w Mitchell, Walker & Walner 1*.
Cloud County—
6-6-4w Murdock, Concordia O. & P. Co. 1.
Coffey County—
11-22-15 Douglas, Crooks et al 1*.
11-23-13 Hanner, Sheedy et al 3.
Dickinson County—
15-16-4 Kutler, Frank et al 1½.
24-14-4 Sherman, Loy et al 1.
35-16-4 Uteck, Harwood & Winters 1.
Ellis County—
26-13-16w Leiker, Tatlock et al 1.
27-13-16w Reidell, Mid-West Ref. Co. 19.
Ellsworth County—
9-15-10w Maximer, Valerious & Cheney 1.
24-16- 9w Gregory, Philmack Oil Co. 1.
Franklin County—
17-16-18 Owens, Smith, Thrice & Fisher 1*.
Gary County—
16-10-5 Fawley, Brinkley et al 1*.
Graham County—
27-8-25w St. John, Gulf Coast Drlg. Co. 1.
Jefferson County—
13-9-19 Edwards, Northern Counties Oil 1*.
Labette County—
1-33-17 Hornbeck, Cowell et al 1*.
5-35-20 Lipps, Wantland et al 1*.
Logan County—
14-14-33w Andrews, Coon et al 1*.
Lyon County—
17-21-12 Yoha, Tulsa Oil Co. 1.
Marshall County—
4-4-7 Finn, Marshall Oil Synd. 1*.
McPherson County—
1-17-3w Lamar, Lamar et al 1.
31-18-2w Anderson, McPherson O. & G. 1
8-19-2w Clark, Merriman et al 1.
26-19-3w Jones, Mid-Kansas Oil Co. 1.
20-20-3w Dary, Polar Oil Co. 1*.
Mead County—
9-33-28w Lilly, Blackwell O. & G. Co. 1.
Montgomery County—
31-31-14 Fade, Ramler et al 1*.
29-32-17 Hellum, Earl & Overlease 1*.
4-35-14 Walker, Gallowye & Roberts 1*.
Nemaha County—
19-3-11 Myers, Nemaha O. & G. Co. 1*.
Osborn County—
30-9-15w Prather, Davis et al 1.
Osage County—
3-15-15 Lease, Barber et al 1*.
27-15-16 Baley, West et al 1½.
8-17-17 Neil, Mull Vit Development Co. 1.
Pottawatomie County—
11-10-12 St. Mary, Crawford et al 1*.
Riley County—
20-10-7 Thierer, Youker et al 1.
Rooks County—
14- 9-16w Rathburn, Keys Pet. Co. 1.
3-10-16w Kruse, Derby Oil Co. 1*.
28-10-16w Mattison, Streeter & Stearns 1.
Rush County—
27-17-17w Schreverman, Valerious Oil & Gas Co. 1*.
Russell County—
32-13-15w Mermis, Day et al 1.
33-13-15w Mermis, Streeter & Stearns 1.
5-14-15w Mermis, Mid-West Refg. Co. 3.
Saline County—
17-15-2w Muir, Mentor O. & G. Co. 1.
Shawnee County—
21-12-14 Shirley, McBride & Goens 1.
Stafford County—
23-22-11w Siffers, Harper et al 1*.
Stephens County—
31-33-37w Jones, Independent O. & G. 1.
Seward County—
3-35-34w Boles, Wilson & Moore 2.
Wabaunsee County—
19-12-11 Schwalm, Empire O. & R. Co. 1
15-13-12 Henderson, Williams et al 1*.
Wilson County—
22-28-13 Thompson, Price et al 1*.
29-30-17 Smalley, West et al 1*.
Woodson County—
13-26-14 Daniels, Skelly Oil Co. 1*.
23-26-14 Lauber, McCullough et al 1*.
Duncan, Peerless O. & R. Co. 1*
26-26-14 Gregory, McMullen et al 1*.
Rigs, 13; wells drilling, 67; total, 80.

LOUISIANA-ARKANSAS

NORTH LOUISIANA

Summary of Field Operations

Parish—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Bienville	0	0	0	0	1	2	3
Bossier	7	29	3	3	10	18	
Caddo	24	3,135*	7	3	27	24	51
Caldwell	1	0	1	0	1	0	1
Catahoula	0	0	0	0	0	4	4
Claiborne	0	0	0	0	1	1	2
DeSo.o	2	15	0	1	6	6	12
Franklin	0	0	0	0	1	2	3
Grant	1	0	1	0	3	0	3
LaSalle	4	75	3	0	4	0	4
Madison	0	0	0	0	1	0	1
Monroe dist.	6	†	1	5	10	8	18
Natchitoches	3	0	3	0	0	1	1
Red River	2	82	0	0	2	0	2
Rapides	0	0	0	0	0	1	1
Richland	5	†	3	2	8	14	22
Sabine	5	1,085	3	0	6	5	11
Webster	3	10	0	2	5	9	14
West Carroll	1	0	1	0	0	2	2
Winn	0	0	0	0	2	1	3
Total	64	4,382	26	16	86	90	176
Total Oct.	55	965	22	28	53	104	157
Difference	9	3,417	4	10	33	14	19

*Two wells also producing gas.
†Gas production: Monroe district, 32,143,000 feet; Bossier, 68,000,000 feet; Caddo, 26,500,000 feet; Richland, 60,126,000 feet; Webster, 37,969,000 fee.; total, 225,138,000 feet.

ARKANSAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Ashley	1	0	1	0	0	0	0
Bradley	0	0	0	0	1	0	1
Calhoun	0	0	0	0	0	1	1
Clay	0	0	0	0	0	1	1
Cleveland	0	0	0	0	1	0	1
Columbia	5	0	5	0	1	1	2
Drew	0	0	0	0	1	0	1
Faulkner	0	0	0	0	0	1	1
Franklin	1	*	0	1	0	1	1
Garland	0	0	0	0	0	2	2
Grant	0	0	0	0	0	1	1
Hempstead	0	0	0	0	1	0	1
Jackson	0	0	0	0	1	0	1
LaFayette	0	0	0	0	1	0	1
Lincoln	0	0	0	0	1	0	1
Little River	0	0	0	0	1	0	1
Miller	1	0	1	0	1	2	3
Nevada	4	320	0	0	10	2	12
Ouachita	5	120	3	1	8	3	11
Pike	0	0	0	0	2	0	2
Pope	0	0	0	0	1	0	1
Union	10	1,038	6	1	20	16	36
Woodruff	0	0	0	0	1	0	1
Total	27	1,478	16	3	55	27	82
Total October	27	1,656	12	2	14	29	43
Difference	0	422	4	1	41	2	29

Rigs include locations, derricks, rigs and wells shut down for various causes after starting drilling.
Gas production: Franklin county, 750,000 feet; Ouachita county, 6,000,000 feet; Union county, 6,000,000 feet; total, 12,750,000 feet.

WELLS COMPLETED
BOSSIER PARISH

3-20-14 Sentell & Dickson, Triangle Drlg. Co. 1 ..... dry
17-18-11 Hale-Rumbaugh, Jensen Rogers & Gibson 1 ..... dry
21-16-10 Lincoln Land Co., Woodley & Collins 1 ..... dry
23-23-12 Zula Robertson, Magnolia Pet. Co. 1 ..... gas
25-18-12 Hodges, J. S. McCullough, trus. 3 20
22-23-12 Mays, Northwest La. Gas 1 ..... gas
36-23-12 Wilkinson, The Texas Company 1 ..... gas

Wells completed 7
Production 20
Gas 3
Dry 3
Gas production 68,000,000

CADDO PARISH

23-21-15 Bashara, Arkansas Fuel Oil 2 400
10-18-16 R. T. Sharp, Belchic & Laskey 3 ..... gas
1-20-16 Offenhauser, Bethany O. & G. 1 10
10-21-15 Caldwell, J. W. Burton, trus. 1 5
17-17-16 State Line Hunting & Fishing Club, W. H. Cross 1 ..... gas
13-21-15 Noel, Dixie Oil 2-A ..... dry
14-21-15 Dillon, Dixie Oil 88 960
5-20-16 Rives, W. W. Dodson et al 6 5
27-21-15 Watkins & Lane, Double H Oil 7 ..... dry
29-21-16 J. J. Hart, Gray et al 1 15
15-17-16 McCutcheon, Greenwood Prod. Co. 1 ..... dry
15-21-15 J. H. Herndon, Gulf Ref. Co. 11 (loc.) ..... abd
14-21-15 Murray, Haynes Bros. 2 400
6-17-16 W. M. Bell, Magnolia Pet. Co. (drk.) ..... abd
15-21-15 Herndon, Pittsburgh O. & D. 1 dry
33-21-15 Stiles, Standard Oil Co. 179.. 40
27-21-16 Stiles, Standard Oil Co. 189... 40
34-21-16 J. J. Hart, Standard Oil Co. 15 30
16-21-16 Helpman hrs., Standard Oil 53 dry
26-20-15 Youree, Superior Oil 6 10
14-21-15 J. F. Herndon, The Texas Company 8 500
14-21-15 J. F. Herndon, The Texas Company 9 ..... gas
23-21-15 Caddo Mineral lands, The Texas Company 49 220
14-21-15 A. Herndon, The Texas Company 6 500

Wells completed 24
Production 3135
Gas 3
Dry 7
Gas production 26,900,000

CALDWELL PARISH

5-13-5e Caldwell L. & T. Co., Southern Crude Oil Pur. Co. 8 ..... dry

DESOTO PARISH

36-13-12 Sample, The Texas Co. 15-C ... gas
2-12-12 Wemple, The Texas Co. 6-A ... 15

GRANT PARISH

18- 9-1e Swope, Holmes et al 2 (drk.) abd

LASALLE PARISH

5- 7-2e L. & A., Tunica Pet. Co. 41 dry
15- 7-2e L. & A., Tnica Pet. Co. 40 dry
7-10-2e Urania, Elbert Pet. Co. 5 75
20-10-2e Urania, Natural G. & F. 2-M dry

MONROE DISTRICT

14-20-4e Perry, Consolidated Carbon 1. dry
16-19-4e Hatcher, Hatcher & Evans 6. gas
13-18-3e Stubbs, Imperial O. & G. Products Co. 2 ..... gas
3-18-4e McGee, Industrial Gas Co. 1 gas
20-20-5e Fee, Ladell Properties 45.. gas
20-20-4e Harris, Southern Carbon 1 ..... gas

Wells completed 6
Gas 5
Dry 1
Gas production 32,143,000

NATCHITOCHES PARISH

25- 5- 6 Clark-Moore Lumber Co., Laswon & Pharis 3 ..... dry
26-13- 6 L. & A., Ohio Oil 2 ..... dry
4-10-10 Leopold, Tate et al 1 (loc.).. abd

RED RIVER PARISH

27-13-11 Richardson, J. H. Askew 1 ... 45
30-13-10 Brinkerhoff, The Texas Company 36-B 17

RICHLAND PARISH

10-14-5e Tensas, Helm et al 1 ..... dry
15-18-7e William Jones, Moody & Seagraves 1 ..... dry
20-16-6e Sartor, Natural G. & F. 1.... gas
1-16-6e Broughton, Tex.-La. Carbon 1 dry
31-18-7e Hemler, Woodley & Collins and Triangle Drlg. Co. 1..... gas

Wells completed 5
Gas 2
Dry 3
Gas production 60,126,000

SABINE PARISH

32-10-12 Moore, Arkansas Fuel Oil 2 ... 65
29-10-12 Harris, Frazier et al 1.... dry
9- 9-13 Burkett, Longoria et al 1 (drk.) ..... abd
33-10-12 Hall, Magnolia Pet. 2 1000
5- 8-13 Long-Bell Lumber Co., A. H. Tarver 1 ..... dry

WEBSTER PARISH

30-23- 9 Wise, Magnolia Pet. 1 ..... gas
23-21-10 Cox, Magnolia Pet. 2 ..... gas
21-21-10 Marshall, Magnolia Pet. 4.... 10

Wells completed 3
Production 10
Gas 2
Gas production 37,969,000

WEST CARROLL PARISH

16-20-10 Pioneer Cooperage Co., Palmer Corp. 1 ..... dry

ARKANSAS
WELLS COMPLETED
ASHLEY COUNTY

10-19- 5 Keller, Glassell et al 1 ..... dry

COLUMBIA COUNTY

35-18-19 Duffer, Smith & Compton 1 dry
6-18-20 Davis, Phillips Pet. 2..... dry
4-20-21 Bodcaw, Wingfield & Mitchell 1 ..... dry
4-20-21 Bodcaw, Mitchell & Eylers 2 dry
15-17-22 Gantt, F. R. Miller et al 1 (drk.) ..... abd

Wells completed 5
Dry 5

FRANKLIN COUNTY

15- 8-27 Reaves, Ozark Natl. Gas 1 .... gas

MILLER COUNTY

30-15-26 M. & P. Bank, Guest et al 1.. dry

NEVADA COUNTY

1-14-21 Moss, J. J. O'Brien 9-B 75
1-14-21 Moss, J. J. O'Brien 5-A..... 100
1-14-21 Haynie, J. J. O'Brien 4-B 100
6-14-20 Fairchild, Humble O. & R. 6 45

Wells completed 4
Production 320

OUACHITA COUNTY

23-15-16 Johnette, F. A. Book 3 ..... jkd
4-16-16 Berg, Exchange Oil 4 ..... gas
24-15-15 Snyder, Marine Oil 14 120
24-15-15 Snyder, Owenwood Oil 4..... jkd
26-15-16 Davisson, The Texas Co. 1 ... jkd

Wells completed 5
Production 120
Gas 1
Gas production 6,000,000

UNION COUNTY

16-17-13 McGough, Genther et al 1 (loc.) ..... abd
4-16-15 Murphy, Gulf Ref. Co. 43 ..... gas
17-16-15 Murphy, E. M. Jones 11 ..... dry
2-17-14 Crain, E. M. Jones 1 1000
9-16-15 Murphy, Keen & Woolf 4..... dry
12-17-15 Ezell, W. R. Keever 3..... 30
7-18-15 Tatum, Magna Pet. 6..... dry
1-17-14 Crain, Ohio Oil 1..... dry
32-15-16 Saxon, Smitherman & McDonald 2-A 8
4-16-15 Murphy, Standard Oil 33..... dry

Wells completed 10
Production 1038
Gas 1
Dry 6
Gas production 6,000,000

EAST TEXAS
WELLS COMPLETED
HARRISON COUNTY

Furrh, Ford et al 1; E. M. Johnson Sur. gas
Bryson, C. H. Lyons et al 4; T. D. Wilson Sur. ..... gas
J. M. Trosper, Magnolia Pet. 2; J. H. Harrison Sur. ..... gas
J. M. Trosper, Magnolia Pet. 4; J. H. Harrison Sur. (loc.) ..... abd
Z. E. Vaugh, R. W. Torrans 1; W. R. Anderson Sur. ..... gas
J. M. Bryson, A. L. Waller 1; W. R. Anderson Sur. ..... gas

Wells completed 6
Gas 4
Dry 2
Gas production 16,000,000

PANOLA COUNTY

S. M. Burns, Bethany O. & G. 1; W. A. Birdsong Sur. ..... gas
Richardson, Bethany O. & G. 2; J. Yarnell Sur. ..... gas
A. Mays, Cranfill & Reynolds 1; Jane Thorpe Sur. ..... dry
C. G. Steele, Magnolia Pet. 11; B. C. Jordan Sur. ..... gas
Crenshaw, D. Thompson 1; John Womack Sur. ..... gas

Wells completed 5
Gas 4
Gas production 14,062,000

MISSISSIPPI
WELLS COMPLETED
MONROE COUNTY

22-15-17 Rye, Natural G. & F. 1 .... gas

Gas production 3,000,000

NORTH LOUISIANA
RIGS AND WELLS DRILLING
BIENVILLE PARISH
Wells Drilling

16-16-10 State, Lake Bisteneau Gas Co. 1.
18-16- 5 Hays, Louisiana Pet. Co. 1.
Shut Down
11-17- 6 Perritt, Edwin J. Forest 1.
Wells drilling, 2; shut down, 1; total, 3.

BOSSIER PARISH
Rigs and Locations

17-23-12 Barnett, Arkansas Natural Gas 1.
22-23-12 Dodson, Belchic & Laskey 1.
18-23-13 Hamiter, Hamiter et al 1.
21-23-12 Farrington, O'Brien Bros. 1.
26-17-12 Lewis Burke, Palmer Corp. 1.
7-17-11 Werner, R. O. Roy 1.
Wells Drilling
15-23-12 Dodson, Bahan & Davis 1.
9-22-11 Bolinger, Doern et al 1.
15-19-11 Bliss & Wetherbee, Humble O. & R. Co. 36.
26-23-12 D. W. Roberson, Magnolia Pet. 1.
26-16-12 Hodges, J. S. McCullough, trus. 4.
22-23-12 Dodson, O'Brien Bros. 1.
30-23-11 Bolinger, Sales & Walker 3.
24-17-12 Smith, Sligo Synd. 2.
28-22-13 Antrim, Walker et al 1.
15-23-12 L. & A., Woodley & Collins 3.
Shut Down
14-19-11 Larkin, R. L. Crook 8.
2-16-13 Curtis, H. S. Goodwin, trus. 1.
Rigs, 6; wells drilling, 10; shut down, 2; total, 18.

CADDO PARISH
Rigs and Locations

16-21-15 Caldwell, J. W. Burton, trus. 8.
33-21-16 Fee, W. D. Chew 7.
14-21-15 Dillon, Dixie Oil 91.
27-21-15 Wadkins, Double H Oil 1.
4-17-16 Bell, Magnolia Pet. 2.
21-21-15 Dillon, Magnolia Pet. 18.
23-21-15 Dillon, Magnolia Pet. 21.
22-20-15 Newton Smith, Rogers & Jensen 1.
28-21-15 State, Shreveport Oil Corp. 1.
15-20-15 Hunsicker, Simplex Oil 1.
14-21-15 A. Herndon, The Texas Co. 7.
14-21-15 A. Herndon, The Texas Co. 8.
18-17-16 Waterman Lumber Co., Waterman Brick & Tile Co. 1.
Wells Drilling
13-21-15 C. W. Cline, Ark. Natl. Gas 1.
10-18-16 P. A. Sharp, Belchic & Laskey 3.
14-21-15 Clark, Dixie Oil 9.
23-21-15 Caddo Mineral Lands, Dixie Oil 9.
13-21-15 Dillon, Dixie Oil 92.
11-21-15 Huckaby, Dixie Oil 4.
15-18-14 Cooper & Ellerbe, Greenwood Prod. Co. 1.
15-21-15 Spell, Haynes Bros. 2.
32-18-16 John Furrh, Magnolia Pet. 1.
15-21-15 Hampton, Magnolia Pet. 8-A.
23-21-15 Robertshaw, Magnolia Pet. 21.
23-21-15 Robertshaw, Magnolia Pet. 22.
12-21-15 E. K. Smith, Ohio Oil 25.
32-23-16 Thompson, Ohio Oil 1.
17-21-14 Sellington, Palmer Corp. 1.
16-21-16 Helpman, Standard Oil 54.
22-18-16 Amanda Sharp, State Line O. & G. Co. 1.
23-21-15 Caddo Mineral Lands, The Texas Co. 50.
23-21-15 Caddo Mineral Lands, The Texas Co. 51.
14-21-15 J. K. Herold, The Texas Co. 10.
15-21-15 Mabry, The Texas Co. 10.
15-21-15 D. H. Raines, The Texas Co. 19.
9-14-16 Ben Hines, Tubbs et al 1.
2-15-12 Knight, Woodley Pet. 4-B.
Shut Down
13-21-15 C. W. Lane, Ark. Natl. Gas 2.
23-21-15 J. D. Bickham, Bussa & McGoldrick 7.
27-20-15 Schmidt, Falcon Drlg. Co. 1.
28-18-16 J. W. Furrh, Magnolia Pet. 1.
32-23-16 Aaron B. Land Co., Ohio Oil 1.
32-23-16 E. Plum, Ohio Oil 1.
27-21-15 State, Shreveport Oil Corp. 2.
15-20-15 Thomas et al, Simplex Oil 3.
15-20-15 Thomas, Simplex Oil 4.
22-22-15 Jolly, Standish Oil 1.
18-18-16 Wheeler, State Line O. & G. 1.
23-21-15 Caddo Mineral Lands, The Texas Co. 47.
14-21-15 Noel, The Texas Co. 14-B.
23-19-14 McVey, Woodley & Collins 1.
Rigs and locations, 13; wells drilling, 24; shut down, 14; total, 51.

CALDWELL PARISH
Shut Down
6-12-4e Crockett, Grayson Oil 1.

CATAHOULA PARISH
Wells Drilling
21- 9-7e Tensas Delta, S. D. Hunter 2.
26- 9-6e Beasley, Lochnager O. & G. 2.
29- 9-6e McMillan, Lochnager O. & G. 1.
23- 8-5e Tensas Delta, Standard Oil 1.
Rigs and locations, 0; wells drilling, 4; shut down, 0; total, 4.

CLAIBORNE PARISH
Rigs and Locations
8-20- 6 Jones, El Dorado Chief Oil 1.
Wells Drilling
16-22- 8 C. C. Lee, Magnolia Pet. 1.
Rigs and locations, 1; wells drilling, 1; shut down, 0; total, 2.

DESOTO PARISH
Rigs and Locations
3-13-13 Tracy, R. O. Roy 1.
5-13-13 Whitaker, R. O. Roy 1.
Wells Drilling
5-11-11 Lanier, American Controlled Oil 2.
3-10-13 Wolff, Benson Oil 1.
12-11-16 Stevens, Carlton Drlg. Co. 1.
9-12-11 Jenkins, Dixie Oil Co. 1.
7-10-13 Johnson, Foster et al 1.
17-10-12 Logan, Magnolia Pet. 17.
Shut Down
7-11-11 Lanier, American Controlled Oil 1.
1-11-16 Frost-Johnson Lbr. Co., Chal Daniels 1.
8-11-14 Jones, Reliance Drlg. Co. 1.
18-10-12 Haywood, Wingfield et al 1-A.
Rigs and locations, 2; wells drilling, 6; shut down, 4; total, 12.

FRANKLIN PARISH
Wells Drilling
11-11-6e Tensas, Louisiana Pet. 1.
12-11-6e Moore, Pittsburg Explin. Co. 3.
Shut Down
3-15-7e Baker, Barbour Oil 1.
Rigs and locations, 0; wells drilling, 2; shut down, 1; total, 3.

GRANT PARISH
Rigs and Locations
4- 7-4w Calhoun, W. D. Ball et al 1.
18- 9-1e Fee, Swope et al 5.
Shut Down
18- 9-1e Fee, Swope et al 3.
Rigs and locations, 2; wells drilling, 0; shut down, 1; total, 3.

LASALLE PARISH
Rigs and Locations
7-10-2e Urania, Elbert Pet. Co. 3.
Shut Down
7-10-2e Urania, Pima Oil Co. 10.
2- 9-1e Gibson, Wingfield et al 2.
7-10-2e Urania, Zoder et al 6.
Rigs and locations, 1; wells drilling, 0; shut down, 3; total, 4.

MADISON PARISH
Rigs and Locations
51-16-14 Yerger, W. S. Smith 1.

MONROE DISTRICT
Rigs and Locations
14-20-4e Perry, Consolidated Carbon Co. 1 (second hole).
10-22-9e Bonita Lumber Co., Keisker et al 1.
26-20-5e Atkins, United Carbon Co. 1.
13-19-3e Stubbs, Imperial O. & G. Products Co. 3.
5-18-4e W. Va. Timber Co., Palmer Corp. 1.
6-19-5e Nelson fee, United Carbon Co. 2.
23-20-3e Parks, Interstate Natural Gas 1.
6-21-4e Stephenson, Interstate Nat. Gas 1.
Wells Drilling
27-22-4e Tensas Delta, Natural Gas Products Co. 10.
38-20-4e Smith, Ouachita Natural Gas 7.
22-20-6e Siveley, The Texas Co. 1.
18-18-15e Miller, Jordan Drlg. Co. 1.
34-19-3e D'Arbonne, Ouachita Natural Gas Co. 1.
38-19-14e Fairbanks, Southern Carbon 8.
5-18-4e Fee, W. Va. O. & G. Co. 5.
36-20-3e Steele, Interstate Natural Gas 1.
Shut Down
21-22-1e Tugwell, J. E. Camatte 1.
7-23-1e Security Trust, Carter & Goodwin 1.
Rigs and locations, 8; wells drilling, 8; shut down, 2; total, 18.

NATCHITOCHES PARISH
Wells Drilling
18- 5- 5 Dave Delrie, Lawson & Pharis 1.

RAPIDES PARISH
Wells Drilling
25- 5-1w Allen, Collons Bros. 1.

RED RIVER PARISH
Rigs and Locations
25-13-11 Rischardson, R. H. Askew 2.
Shut Down
1-14-12 Neeley, Hazlett & Simmons 2.

RICHLAND PARISH
Rigs and Locations
28-17-6e Rhymes, Gulf Ref. Co. 3.
34-16-5e Hatch, Moody & Seagraves 1.
29-16-6e Hemler, Moody & Seagraves 1-C.
18-16-6e LaFleur, Moody & Seagraves 1.
30-16-6e Sartor, Natural G. & F. Corp. 3-B.
15-16-6e Sartor, Natural G. & F. Corp. 4-B.
21-16- 6 Thompson, Natural G. & F. 1-A.
Wells Drilling
8-17-6e Millsaps, Gulf Ref. Co. 1.
20-16-6e Hemler, Moody & Seagraves 1-B (formerly W. C. Feazel's No. 1 Hemler).
6-15-6e Hemler, Moody & Seagraves 2-B (formerly W. C. Feazel's No. 2 Hemler).
36-16-5e McClanahan, Moody & Seagraves 1.
30-16-6e McCoy, Moody & Seagraves 2.
36-16-5e C. M. Noble, Moody & Seagraves 1.
14-15-5e W. T. Osborn et al, Moody & Seagraves 1.
9-16-6e Sartor, Natural G. & F. Corp. 1-A.
19-16-6e Sartor, Natural G. & F. Corp. 2-B.
2-15-5e Richard Hatch, Harry E. Oliver et al 1.
1-14-5e Tensas Delta Land Co., Roxana Pet. 2.
20-18-8e Sartor, Southern Carbon Co. 1.
32-16-7e Delta Hardwood Co., Standard Drlg. Co. 1.
26-16-6e Dunning, Stovall Drlg. Co. 1.
Shut Down
23-16-5e Wayne Land & Timber Co., Gulf Ref. Co. 2.
Rigs and locations, 7; wells drilling, 14; shut down, 1; total, 22.

SABINE PARISH
Rigs and Locations
8- 7-13 Sabine Lumber Co., L. M. Emlet 1.
33-10-12 Moore, Selp et al 1.
15- 7-14 Mansfield Hardwood Lumber Co., L. M. Emlet 1 (second hole).
Wells Drilling
33-10-12 Logan, Arkansas Fuel Oil 11.
33-10-13 Logan, Arkansas Fuel Oil 1-A.
36-10-13 Logan, S. P. Borden, trus. 1.
32-10-12 Rembert, Magnolia Pet. 2.
5- 9-12 Moore, Moffatt et al 3.
Shut Down
32-10-12 Logan, Arkansas Fuel Oil 10.
8- 9-12 Bowman-Hicks Lumber Co., L. M. Emlet 6.
14- 7-14 Bowman-Hicks Lumber Co., L. M. Emlet 7 (second hole).
Rigs and locations, 3; wells drilling, 5; shut down, 3; total, 11.

WEBSTER PARISH
Rigs and Locations
36-23-10 North Central Texas Oil Co., Ark. Natural Gas Co. 1.
22-21-10 Aarnes-Cox, Magnolia Pet. Co. 2.
22-21-10 J. M. Nixon, Magnolia Pet. Co. 1.
29-23- 9 W. B. Roseberry, Magnolia Pet. 1.
29-23- 9 Munn, Northwest La. Gas Co. 1.
Wells Drilling
14-21-10 J. Babb, Humble O. & R. 5.
26-21-10 M. E. Gray, Humble O. & R. 1.
24-17- 9 M. Miles, S. A. Lane 1.
27-21-10 G. W. Cole, Magnolia Pet. 1.
1-22-10 Haynesville Mercantile Co., Magnolia Pet. 1.
21-21-10 Marshall, Magnolia Pet. 5.
32-23- 9 Newsom, Magnolia Pet. 1.
23-21-10 R. L. Holloway, Ohio Oil 4.
22-21-10 D. G. Cox, Magnolia Pet. 1.
Rigs and locations, 5; wells drilling, 9; shut down, 0; total, 14.

WEST CARROLL PARISH
Wells Drilling
2-19-10 White, Palmer Corp. 1.
32-20- 9 W. R. Marion, Phillips Pet. 1.

WINN PARISH
Wells Drilling
5-12-1w Rolan, Ohio Oil Co. Acct. 1, No. 1.
Shut Down
31-10-4w Edenborn, Ohio Oil Co. 1.
19-11-3w H. M. Roark, Southern Minerals 3.

ARKANSAS
RIGS AND WELLS DRILLING AND SHUT DOWN
BRADLEY COUNTY
Shut Down
12-12-12 Southern Lumber Co., Johnson & Adams 1.

CALHOUN COUNTY
Well Drilling
3-14-16 Stout Lumber Co., Genther et al 1.

CLAY COUNTY
Shut Down
29-21- 8 Gossett, Arkmo O. & G. 1.

CLEVELAND COUNTY
Shut Down
31-10-10 R. Hall, Kingsland Oil Co. 1.

COLUMBIA COUNTY
Wells Drilling
8-17-19 Alexander, The Texas Co. 1.
Shut Down
25-19-22 Franks, Mitchell et al 1.
Wells drilling, 1; shut down, 1; total, 2.

DREW COUNTY
Shut Down
35-13- 5 Olga, McClintock & Goodka 1.

FAULKNER COUNTY
Shut Down
17- 4-13 Stermer, Gold Creek O. & G. 1.

GARLAND COUNTY
Wells Drilling
17-25-17 Malvern Lumber Co., Chawood Oil Co. 1.
1- 3-19 Garrett, H. H. Givans 1.

GRANT COUNTY
Shut Down
5- 4-11 Meek, Jones & Watkins 1.

HEMPSTEAD COUNTY
Shut Down
34-10-26 Goodlet, Ark. Natural Gas Co. 1.

JACKSON COUNTY
Shut Down
24-10-4w Hugue, Full Moon Pet. Co. 1.

LAFAYETTE COUNTY
Shut Down
31-19-24 Kensaw, Kensaw Pet. Co. 1.

LINCOLN COUNTY
Shut Down
33-10- 6 Carter, Pine Prairie O. & G. 1.

LITTLE RIVER COUNTY
Shut Down
2-13-31 Allen, Grotte et al 1.

MILLER COUNTY
Wells Drilling
14-15-26 Saunderson, Guest et al 1.
Shut Down
22-15-26 Mann, Lenz et al 1.

NEVADA COUNTY
Rigs and Locations
1-14-21 Moss, J. J. O'Brien 17-A.
Wells Drilling
9-15-22 Pelt, McDonald et al 1.
12-14-20 Groves, Wright Oil Co. 3.
Shut Down
10-14-21 Womack, Ames & Zingg 1-B.
9-14-21 McKinney, Burnham et al 1.
22-12-21 T. L. Rhodes, Fruen et al 1.
1-14-21 Groves, Humble O. & R. 4-B.
6-14-20 Robert Haynie, J. J. Obrien 2.
6-14-20 William Haynie, J. J. O'Brien 1-B.
1-14-21 William Haynie, J. J. O'Brien 5-B.
1-14-21 Moss, J. J. O'Brien 14-A.
1-14-21 Moss, J. J. O'Brien 15-A.
Rigs and locations, 1; wells drilling, 2; shut down, 9; total, 12.

OUACHITA COUNTY
Wells Drilling
18-12-17 Ponder, H. M. Harrell, trus. 1.
28-14-16 Stout Lumber Co., Magnolia Pet. Co. 1-B.
32-15-15 Joyce, Phillips Pet. 19.
Rigs and Locations
3-16-15 Murphy, Humble O. & R. 4.
4-16-15 Hays, Marine Oil Co. 5-A.
23-15-15 Umstead, Standard Oil Co. 5.
Shut Down
13-15-17 Berg, Copenhaven et al 3.
21-14-17 J. W. Reynolds, A. T. Graves 1.
3-14-18 Chandler est., J. G. Reynolds 1.
32-15-19 H. L. Curry, Brewer et al 1.
22-15-19 Culp, Buffalo Oil Co. 3.
Rigs and locations, 3; wells drilling, 3; shut down, 5; total, 11.

PIKE COUNTY
Shut Down
25- 5-25 Ruth Wilson, Arkansas Manganese Co. 1.
10- 8-23 Kelly, Carnes, Genther & Keith 1.

POPE COUNTY
Location
7- 8-21 Wharton, Natural G. & F. 1.

UNION COUNTY
Rigs and Locations
4-16-15 Murphy, Gulf Ref. Co. 45.
9-16-15 Murphy, Keen & Woolf 6.
12-17-15 Ezell, W. R. Keever 5.
12-16-16 Houston, Laurel O. & G. 1.
8-16-16 Crawford, Magnolia Pet. 3.
8-16-16 B. T. Laney, Magnolia Pet. 3.
8-16-16 B. T. Laney, Magnolia Pet. 4.
1-17-14 Crain, Ohio Oil 4.
1-17-14 Crain, Ohio Oil 6.
17-15-19 Kinard, Pitcher & White 1.
Wells Drilling
8-17-11 Rowland, Booth et al 1.
10-17-14 Gregory, Garrett-Modisett Drlg. 1.
8-18-14 Williams, Grimes Bros. 1.
12-17-15 Ezell, W. R. Keever 4.
17-17-13 Horn et al, Lion Oil Ref. Co. 1.
8-16-15 Murphy, Magnolia Pet. 8.
17-16-15 Wilson, Magnolia Pet. 7.
4-16-15 Hays, Marine Oil Co. 8.
17-16-15 Murphy, C. E. Murdock 2.
1-17-14 Crain, Ohio Oil 3.
1-17-14 Crain, Ohio Oil 5.
1-17-14 W. Pumphrey, Ohio Oil 1.
1-17-14 R. Pumphrey, Ohio Oil 1.
21-17-11 Ark. Timber Co., Pitcher et al 1.
4-17-14 McCain, Rovenger Oil Corp. 1.
4-16-16 H. Murphy, Standard Oil Co. 24.
Shut Down
8-18-12 Garner, Bondurant et al 1.
2-17-16 Slaughter, Brown et al 1.
21-18-12 Dykes, H. L. Hunt 1.
36-17-16 Goodwin, Imperial O. & G. Products Co. 1.
11-17-13 Stegall, Lyell et al 1.
1-17-14 Carroll, Magnolia Pet. Co. 3.
8-18-15 Pratt, Mountz et al 6.
8-16-16 W. A. Fagg, National Consolidated Pet. Corp. 1.
16-16-16 Saxon, J. J. O'Brien 1.
13-17-16 Newton, Rice et al 1.
Rigs and locations, 10; wells drilling, 16; shut down, 10; total, 36.

WOODRUFF COUNTY
Shut Down
8- 5-2w James, Cotton Plant Oil Co. 1.

EAST TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Tl.
Harrison	6	0	2	4	3	6	9
Marion	0	0	0	0	1	0	1
Panola	5	0	0	5	7	5	12
Sabine	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	2	2
Total	11	0	2	9	11	14	25
Total October	14	591	10	0	2	14	16
Difference	3	591	8	9	9	0	9

Rigs: Locations, rigs and wells shut down for various causes.

Gas production: Harrison county, 16,000,000 feet; Panola, 14,062,000,000 feet; total, 30,062,000 feet.

WELLS COMPLETED
HARRISON COUNTY
Rigs and Locations

Vaughn, Tylong O. & G. Co. 1; W. R. Anderson Sur.
Wells Drilling
Hickman, J. R. Bahan 3; E. Pollock Sur.
Furrh, Doney et al 1; Joel Lipscomb Sur.
Z. Abney, Simms Oil Co. 2; James Bryant Sur.
Mullins, State Line O. & G. Co. 2; T. D. Wilson Sur.
C. M. Abney est., State Line O. & G. Co. 5; E. Little Sur.
J. M. Bryson, A. L. Waller 2; W. R. Anderson Sur.
Shut Down
E. T. Roseborough, M. W. Ellis et al 1; E. Carroll Sur.
Will Anderson, Magnolia Pet. Co. 1; Jacob Womack Sur.
Rigs and locations, 1; wells drilling, 6; shut down, 2; total, 9.

MARION COUNTY
Shut Down
Baker, Wm. Gross, et al 1; John French Sur.

PANOLA COUNTY
Rigs and Locations

Burns, Bethany O. & G. 3; W. A. Birdsong Sur.
Burns, Bethany O. & G. 4; W. A. Birdsong Sur.
T. C. Davis, Magnolia Pet. 2; J. L. Mathews Sur.
Jehu Jernigan, Magnolia Pet. 2; Jane Thorpe Sur.
Sol Oden, Magnolia Pet. 2; E. F. Mitchell Sur.
E. C. Tillery, Magnolia Pet. 1; Jane Thorpe Sur.
J. M. Trosper, Magnolia Pet. 3; James Shadoin Sur.
Wells Drilling
Richardson, Bethany O. & G. Co. 3; J. Yarnell Sur.
Sarah Davenport, Magnolia Pet. 2; Jessie Dunlap Sur.
Lila Fletcher, Magnolia Pet. 1; B. C. Jordan Sur.
C. G. Steele, Magnolia Pet. 12; B. C. Jordan Sur.
J. M. Trosper, Magnolia Pet. 1; James Shadoin Sur.
Rigs and locations, 7; wells drilling, 5; total, 12.

SABINE PARISH
Wells Drilling
American Lumber Co., Carter Oil Co. 1; L. B. Anthony Sur.

SHELBY COUNTY
Wells Drilling
Pickering Lumber Co., Magnolia Pet. 1; W. J. Crane Sur.

Pickering Lumber Co., Sebastian et al 1; T. F. Polley Sur.

MISSISSIPPI
LEE COUNTY
Wells Drilling

16- 9- 7 Whitesides, J. P. Evans 1.

MONROE COUNTY
Wells Drilling

12-13-18 Dill, Amory Pet. Co. 1.
18-16-18 Day, Transcontinental Oil Co. and The Texas Company 1.

EAST CENTRAL TEXAS

Summary of Field Operations

County—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Limestone	7	450	3	0	0	4	4
Anderson	1	0	1	0	0	2	2
Smith	1	0	1	0	0	1	1
Cherokee	1	0	0	1	0	1	1
Freestone	0	0	0	0	0	2	2
Total Nov.	10	450	5	1	0	10	10
Total Oct.	13	591	10	0	2	14	16
Difference	3	141	5	1	2	4	6

WELLS COMPLETED
LIMESTONE COUNTY

Lewis, Reiter, Lewis et al 2 100
Lewis, J. K. Hughes Dev. Co. 1 ..... dry
Dugger, Transcontinental Oil Co. 2 ... dry
Lewis, Transcontinental Oil Co. 2, ... dry
Rhea, Why Not Oil, 1 40
Lewis, Why Not Oil, 2 150
Ward, Transcontinental Oil Co., 2 160

Wells completed 7
Production 450
Dry 3

SMITH COUNTY

Morgan, Gulf Prod. Co., 1 ..... abd

ANDERSON COUNTY

Douglass, J. S. Cosden et al, 1 ..... dry

CHEROKEE COUNTY

Elliott, Humble Oil & Refg., 2 ..... gas

Wells completed 1
Gas 1
Gas production 12,000,000

WELLS DRILLING
LIMESTONE COUNTY

Lewis, Reiter, Foster et al, 3, sand.
Williams, Harrison et al, 1.
Fenner, Dillon & Hammond 1*
De Long, Reiter, Hicks & Hoover, 1.

ANDERSON COUNTY

Jones, Humble O. & R, 1.
Cook, Pure Oil, 1.

CHEROKEE COUNTY

Earl & Ragsdale, Humble O. & R. 2.

FREESTONE COUNTY

Coleman, Orbit Oil 1, sand.
Thigle, Roxana Pet., 1.

SMITH COUNTY

Parker, Gaither et al, 1*
Rigs, 0; wells drilling, 10; total, 10.

SOUTHWEST TEXAS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Mirando	15	105	7	5	4	25	29
Rockdale-Minerva	0	0	0	0	0	4	4
Luling	3	105	0	0	0	2	2
Kingsville	4	0	3	1	1	1	2
Refugio	4	0	0	4	4	6	10
Adams Gas Field	6	0	0	6	2	3	5
Somerset	0	0	0	0	0	0	0
Dale Field	6	15	5	0	2	3	5
*Miscellaneous	16	2	11	4	13	103	116
Total Nov.	54	227	26	20	26	147	173
Total Oct.	57	474	31	10	24	140	164
Difference	3	247	5	10	2	7	9

*Includes White Point gas field.

WELLS COMPLETED
MIRANDO TERRITORY

Cole-Duval—Houston Oil (Texas) 1 .. gas
O. W. Killam 2 ..... gas
Randado-Jim Hogg—Magnolia Pet. 30 60
Magnolia Pet. 21 35
Alworth Field—Alworth-Stevens-Hild 22 gas
Alworth-Stevens-Hild 20 ..... abd
Smilock 1 ..... abd
Wildcats—Harry Hamilton 1 ..... abd
Schott Field-Webb—Magnolia Pet. 10 .. 10
Andrews Field—R. M. Strum 1 ..... gas
Carolina-Texas—Magnolia Pet. 2 ..... abd
Albercas Field—Newton Drilling 2 .... abd
O. W. Killam 7 ..... abd
Mirando Valley-Zapata—O. W. Killam 2 (5) ..... gas
Wildcats—Henne, Winch & Fariss 1 .. abd

Completed 15
Gassers completed 5
Oil wells completed 3
Dry and abandoned 7
Oil production 105
Gas production 57,000,000

LULING FIELD

Magnolia Petroleum—Rios 19 50
Magnolia Petroleum—Rios 18 25
Magnolia Petroleum—Branyon 6..... 30

Wells completed 3
Oil wells completed 3
Oil production 105

DALE FIELD

Humble Oil & Ref.—Dinges 1 ..... abd
Humble Oil & Ref.—Clingensmith 3 .. abd
Humble Oil & Ref.—Clingensmith 4 .. 15
Wm. F. Morgan—Moore 1 ..... abd
The Texas Company—Clingensmith 5 .. abd
The Texas Company—Clingensmith 6 .. abd

Wells completed 6
Oil wells completed 1
Dry and abandoned 5
Oil production 15

ADAMS GAS FIELD

Mid-Kansas Oil & Gas—Nixon 2 ..... gas
Southern Gas Utilities—Nixon 4 ..... gas
Witherspoon Oil—Nixon 5 ..... gas
Witherspoon Oil—Nixon 4 ..... gas
Magnolia Petroleum—Keller 1 ..... gas
Wester-Witherspoon—Adams 3 ..... gas

Wells completed 6
Gas wells completed 6
Gas production 58,477,000

REFUGIO GAS FIELD

Houston Gulf Gas—Moody 2 ..... gas
Coast Gas Co.—Ryals 3 ..... gas
Houston Gulf Gas—Shelly 4 ..... gas
Houston Oil—Fannie Heard 6 ..... gas

Wells completed 4
Gas wells completed 4
Gas production 210,000,000

KINGSVILLE FIELD

Houston Oil—Kissman 2 ..... gas
Houston Oil—Kissman 1 ..... abd
W. L. Pearson—Rotge 1 ..... abd
Humble Oil — Ref.—Kleberg 4 ..... abd

Wells completed 4
Dry and abandoned 3
Gas wells completed 1
Gas production 25,000,000

MISCELLANEOUS

Bexar County—
O. J. Muelder—Rosebrock 3 2
Caldwell County—
Calco Petroleum—Thomas 2 ..... abd
Bauchman—Page 1 ..... abd
Gonzales County—
The Texas Company—Plowman 2 .... abd
The Texas Company—Plowman 3 .. abd
Bristol Oil & Gas—Denman 2 ..... abd
Hidalgo County—
D. L. Smith Oil—Daskan 1 ..... abd
Live Oak County—
Morgan-Roxana—West 1 ..... abd
Roy Shipman—Kolb 1 ..... gas
Maverick County—
Johnstone & Hunt—Whipff 1 ..... abd
Milam County—
W. A. Jones—Casparis 1 ..... abd
Nueces County—
Newton Drilling—LaPrelle & Reed 1 .. gas
San Patricio County—
Houston Oil—Humble 2 ..... gas
Houston Oil—Sun A-2 ..... gas
Travis County—
Campbell—Peyton 1 ..... abd
Val Verde County—
A. M. Blume—Moore 1 ..... abd

Completions 18
Oil wells completed 1
Gas wells completed 4
Dry and abandoned 11
Oil production 2
Gas productioin 16,730,000

ATASCOSA COUNTY
Wells Drilling

Shaw, Lumberman Oil 1.
Rigs, 0; drilling, 1; total, 1.

BEXAR COUNTY
Wells Drilling

Ward, Allen Burnam 1.
Rigs, 0; drilling, 1, total 1.

BASTROP COUNTY
Wells Drilling

Boemer, Noack & Laning 1.
Roberts, Fred Adams 1.
Rigs, 0; drilling, 2; total, 2.

BEE COUNTY
Rigs

———, F. Nichols.
Wells Drilling

Ray, D. Hewitt 1.
Hicks, Nichols & White 1.
Perry & Chestnut, Red Ant O. & G. 1.
Rigs, 1; drilling, 3; total, 4.

CALDWELL COUNTY
Rigs

Lackey, The Texas Company 2.
Beatty, The Texas Company 3.
Hardeman, Pat M. Armstrong 1.
Wells Drilling

Lackey, The Texas Company 4.
Clingensmith, The Texas Company 4, 7.
Kelly, North & South 1.
Tiller, North & South 2.
Hardeman, Dextex Oil 1.
Blackwell, Martin & Wright 1.
New, Ratcliffe 1.
Carter, Sutton & Smith 1.
Rigs, 3; drilling, 9; total, 12.

DEWITT COUNTY
Wells Drilling

Smith, Empire Southern Oil 2.
Toland, McNeil & Matthews 1.
Gohmert, Williams & Gates 1.
Tully, Yoro Development 1.
Rigs, 0; drilling, 4; total, 4.

DIMMITT COUNTY
Wells Drilling

City National Bank, Humble Oil & Ref. 1.
Rigs, 0; drilling, 1; total, 1.

FRIO COUNTY
Wells Drilling

Edwards, Lain & Brown 1.
Blackaller, P. A. Neilan 1.
Rigs, 0; drilling, 2; total, 2.

FAYETTE COUNTY
Rigs

———, E. A. Bainbridge 1.
Cervenka, Williams & Phalon 1.
Rigs, 2; drilling, 0; total, 1.

GOLIAD COUNTY
Wells Drilling

Lott, Houston Oil 1.
Pettus, Houston Oil 4.
Ideus, C. W. Simpson 1.
Rigs, 0; drilling, 3; total, 3.

GONZALES COUNTY
Wells Drilling

Wilkerson, Dunning & Pearce 1.
Vaughan, Joe Bruner 1.
Dubose, Green & Shall 1.
Elder, Gonza Petroleum 1, 2.
Sinclair, Gonza Petroleum 1.
Campbell, L. L. Jones et al 1.
Ramzinsky, Stern & Gips 2.
Hampton, L. P. Unkel 1.
Preston, H. B. West, trustee 2.
Rigs, 0; drilling, 10; total, 10.

GUADALUPE COUNTY
Rigs

Kruger, Eugene Sights 1.
Wells Drilling

Weinert, F. A. Lain 1.
McAllister, H. H. Temple 1.
Rigs, 1; drilling, 2; total, 3.

HAYS COUNTY
Wells Drilling

Hohenburg, J. E. Rodgers 1.
Rigs, 0; drilling, 1; total, 1.

KARNES COUNTY
Wells Drilling

Butler, Reynosa Oil Corp. 1.
Rigs, 0; drilling, 1; total, 1.

KERR COUNTY
Wells Drilling

Barfield, Walker-Van Duyn 1.
Rigs, 0; drilling, 1; total, 1.

KINNEY COUNTY
Wells Drilling

Weatherby, Havelin Oil 1.
Clamp, Stephens et al 1.
Rigs, 0; drilling, 2; total, 2.

KLEBERG COUNTY
Rigs

Kissman, Houston Oil 3.
Wells Drilling

Sexauer, Humble Oil & Ref. 2.
Rigs, 1; drilling, 1; total, 2.

LASALLE COUNTY
Rigs

Washburn, Sun Oil 1.
Rigs, 1; drilling, 0; total, 1.

LAVACA COUNTY
Wells Drilling

Russek, M. L. Benedum 1.
Rigs, 0; drilling, 1; total, 1.

LEE COUNTY
Wells Drilling

Henderson, Allen Creek Oil 1.
Rigs, 0; drilling, 1; total, 1.

LIVE OAK COUNTY
Rigs

Cartwright, Houston Oil 19.
Wells Drilling

McNeil, Delta Oil Co. 1.
Cartwright, Houston Oil 20, 21.
Stewart, Encino Oil 1.
Thomas, R. P. Lightfoot 1.
Reagan, Simmons Oil 3.
Griff, Simmons Oil 2.
Sartian, Simmons Oil 4.
Roberts, J. W. Walton 1.
Rigs, 1; drilling, 9; total, 10.

MEDINA COUNTY
Rigs

Adams, Pioneer Oil & Ref. 1.
Mofield, F. Banderet 1.
Wells Drilling

Adams, C. E. Lange 1.
Schmidt, Southern Gas Utilities 3.
Nixon, Witherspoon Oil 6.
Mangold, Pat M. Armstrong 1.
Jungman, Chicon Oil 1.
Rothe, California-Medina 1.
Mumme, Johnson 1.
Taylor, Medina Oil 1.
Nixon, R. P. O'Brien 1.
Zerr, Cecil Switzer 1.
Oeffinger, J. A. Swayze 1.
Rigs, 2; drilling, 11; total, 13.

MAVERICK COUNTY
Wells Drilling

Indio, Ryan Consolidated 1.
Chittim, Rycade Oil 1, 2.
Sullivan, Rycade Oil 2.
Rigs, 0; wells drilling, 4; total, 4.

MILAM COUNTY
Wells Drilling

Boatright, Kent-Middleton 1.
Jacob, J. W. Kemp 2.
White, White Bros. 1.
Von Gonton, R. Von Gonton 1 (fee).
Rigs, 0; drilling, 4; total, 4.

McMULLEN COUNTY
Wells Drilling

Fisher, Houston Gulf Gas 2.
Shiner, Nelson & Wood 1.
Rigs, 0; drilling, 2; total, 2.

NUECES COUNTY
Wells Drilling

Dunn, Saxet Oil 4.
Meaney, Saxet Oil 2.
Well, Saxet Oil 2.
Rigs, 0; drilling, 3; total, 3.

REFUGIO COUNTY
Rigs

Shelly, Coast Gas 2.
Smith Heard, Houston Oil 1.
Vance, Houston Gulf Gas 1.
Heard, Houston Oil 8.
Wells Drilling

Rooke, Houston Oil A-2.
Heard, Houston Gulf Gas 3, 4.
Heard, Houston Oil 11.
Fannie Heard, Houston Oil 5.
Terrell, Perry et al 1.
Rigs, 4; drilling, 6; total, 10.

SAN PATRICIO COUNTY
Rigs

Humble, Houston Oil 3, 4.
Ragsdale, Houston Oil 2.
Hunter, Mission Drilling 1.
Wells Drilling

Baldwin, Houston Oil 1.
Humble, Houston Oil 1.
Tsesmelis, Ed. R. Herwick 1.
Mathis, Huber & Crawford 1.
Harwood, Mission Drilling 1.
Sullivan, National Oil 1.
Garrett, George Pickett 1.
Whitworth, George Pickett 1.
Rachal, Saxet Oil 9, 10, 12.
Cage, Saxet Oil 6.
White Point Dev. Co., Saxet Oil 2.
Robinson, John Sigmund 1.
Rigs, 4; drilling, 14; total, 18.

TRAVIS COUNTY
Wells Drilling

Jacobson, Roy Clark et al 1.
Rigs, 0; drilling, 1; total, 1.

UVALDE COUNTY
Wells Drilling

Smythe, Pure Oil 1.
Rigs, 0; Drilling, 1; total, 1.

VICTORIA COUNTY
Rigs

Kutchka, J. J. Elam 1.
Wells Drilling

Welder, Humble Oil & Ref. 1.
Reeves, R. M. Talbott 1.
Stoever, Valley Oil 1.
Rigs, 1; drilling, 3; total, 4.

VAL VERDE COUNTY
Rigs

Wilson, W. V. Traves 1.
Wells Drilling

Holman, Crusoe Williams 1.
Sellers, Douglas Oil 1.
Russell, East Del Rio Oil 1.
Whitehead, Independent Oil 1.
Whitehead, Magnolia Petroleum 1.
Mills, Owens et al 1.
Rigs, 1; drilling, 6; total, 7.

ZAVALA COUNTY
Wells Drilling

West, J. G. Pundt 1.
West, Western Oil & Gas 1.
Rigs, 0; drilling, 2; total, 2.

MIRANDO TERRITORY
Rigs

Cole, Benavides, Cole Petroleum 38.
Randado, M. S. Banks, Magnolia Pet. 32.
Starr, ———, T. W. Foltz 1.
Aviator, Bruni, F. J. Bates 1.
Wells Drilling

Brooks, The Texas Company 3.
Cole, Benavides, O. W. Killam 8.
Bruni, O. W. Killam 3.
Bruni, Houston Oil (Roxana) A-2.
Benavides, Houston Oil (Sun) C-2.
Benavides, Cole Petroleum 50.
Piedras Pintas, Walsh, Humble Oil & Ref. 7.
Survey 23, Driscoll, Driscoll et al 5.
Survey 60, Schlessinger Oil 1-A.
Survey 16, National Oil 1.
Hidalgo, Adams, Queen City Oil & Gas 1.
Fernandez, D. L. Smith Oil 5.
Jim Hogg, Campbell, Paesano Oil 1.
Canales, O. W. Killam 1.
Jones, T. G. Shaw 1.
Jones, Holden et al 1.
Starr, Kelsey, Clark & Woodruff 1.
Guerra, J. E. Harston 1.
Garcia, Commonwealth Oil 1.
Garcia, Deckle & McCarley 1.
Aviator, Bruni, Colon Schott 1.
Carolina-Texas, de la Garza, D. J. Simmons 2.
Benavides, Houston Oil 3-8.
Cole, Benavides, Cole Petroleum 36.
Zapata, Hinnant, Ed Mims & San Evans 1.
Lopez, O. W. Killam 1.
Rigs, 4; drilling, 25; total, 29.

KENTUCKY-TENNESSEE

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Warren	7	27	4	0	0	9	9
Allen	7	93	4	0	0	12	12
Barren	3	40	0	0	0	19	19
Ohio	45	2,139	17	0	0	49	49
Daviess	7	145	1	0	0	9	9
McLean	0	0	0	0	0	1	1
Hancock	1	0	1	0	1	0	1
Cumberland	0	0	0	0	0	1	1
Clinton	0	0	0	0	0	1	1
Butler	0	0	0	0	0	2	2
Hopkins	0	0	0	0	0	1	1
Edmonson	1	0	1	0	0	0	0
Wayne	3	4	1	0	0	3	3
Estill	13	30	4	0	0	4	4
Lee-Owsley	5	14	2	0	0	0	0
Wolfe	1	3	0	0	0	0	0
Johnson-Magoffin	2	14	0	0	2	5	7
Floyd-Knott	1	0	0	1	0	6	6
Knox	0	0	0	0	0	3	3
Laurel	1	0	1	0	0	0	0
McCreary	0	0	0	0	0	1	1
Clay	1	0	0	1	0	1	1
Kentucky	98	2,509	36	2	3	127	130
Tennessee	0	0	0	0	0	36	36
Alabama	0	0	0	0	0	7	7
Mississippi	0	0	0	0	11	18	29
Florida	0	0	0	0	0	13	13
N. Carolina	0	0	0	0	0	1	1
Total Nov.	98	2,509	36	2	14	202	216
Total Oct.	123	3,499	41	6	17	199	216
Difference	25	990	5	4	3	3	0

WELLS COMPLETED
WARREN COUNTY

Bowling Green—J. C. Davenport, W. B. Caudle 3 ..... dry
J. L. Jenkins, J. L. Jenkins 1..... dry
W. B. Hunton, P. H. Lavelle 10 20
H. M. Bryant, Thompson Oil 7..... 5
L. H. Hunt, McGuigan & Byle 2..... 2
Vanmeter-Stewart, Orin Wood 1..... dry
Henry Bryant, R. E. Woalker 12..... dry

Wells completed 7
Production 27
Dry 4

ALLEN COUNTY

Scottsville—E. H. Woods, Mid-Southern Oil 17 ..... dry
E. H. Woods, Mid-Southern Oil 18... 90
Lee Moore No. 2, Lee Moore 9..... 1
L. M. Stovall, J. R. Evans & Co. 12. 3
Riley Reed, W. P. Harley 2, 3 ..... dry
W. L. Motley, Allen Oil Corp. 9.... dry

Wells completed 7
Production 93
Dry 4

BARREN COUNTY

Glasgow—Sam Gooden, A. W. Zeigler 3 10
Williamson, White & S.ombo 5..... 10
Loden, Samson Oil 7..... 20

Wells completed 3
Production 40

OHIO COUNTY

Hartford—Sally Early, Creek Drig. 10 15
Sally Early, Creek Drig. 11..... dry
Bartlett Heirs, Creek Drig. 1..... 100
Ivo Howard, White Plains O. & G. 4 dry
William Wade, White Plains O. & G. 1 dry
Ada Kelly, White Plains O. & G. 1.... 16
Hill Rhodes, Daugherty & Co. 3..... 300
Cora Wells, Daugherty & Co. 7..... 250
Cora Wells, Daugherty & Co. 8..... 40
Cora Wells, Daugherty & Co. 9..... 100
J. C. Ellis, The Ohio Oil 11..... 5
Ben Taylor, French & Co. 1..... dry
Mary J. Elmore, Wood Oil 19..... 100
Mary J. Elmore, Wood Oil 20..... 75
J C. Ralph, Wood Oil 2..... 30
J. C. Smith, Wood Oil 4..... 100
Deliah Lake, The Ohio Oil 3..... 5
Jane Davis, Engle & Hupp 1..... dry
Ollie Ezell, Young & Lee 1..... 100
Ada Keith, James C. Ellis 2..... 25
B. L. Gossett, James C. Ellis 2..... 15
Mary Cundiff, James C. Ellis 2..... 20
Spence Bartlett, James C. Ellis 3.. 100
M. F. Gossett, James C. Ellis 1..... 20
Ira Moseley, James C. Ellis 1..... dry
Oma Ware, Keeper Oil 1..... 5
E. L. Chapman, Engle & Hupp 2..... dry
Wimsatt-Feemster, Nick Shiarella, Trus. 1..... dry
Plus Taylor, Raydure & Richenbrough 1 ..... dry
A. P. Kelly, S. A. Russell 2..... 15
Fannie Lake, Creek Drilling 12..... 200
R. G. Forte, George Boles & Co. 1.. dry
Emil Estridge, George Boles 1..... dry
Marion Baker, Thresher & Shouse 1. dry
Mark Renfrew, Thresher & Sho'se 1, 2 dry
Mary E. Wilson, Earl Patton 5..... 100
C. A. Kelly, Penn-Indiana Oil 7..... 40
Guy Hazel, Bolling & Co. 1..... 10
Bob Hamilton, Kelly & Yewell 1..... 200
Gilbert Jolly, Jordon & Short 1..... 50
Mary E. Wilson, Earl Pat.on 4..... 100
Joe Maiden, Daily & Lowman 1, 2, 3 dry

Wells completed 45
Production 2139
Dry 17

DAVIESS COUNTY

Whitesville—F. F. Coomes, Pet. Exp. 5 70
Eli Corder, Tri-County Oil & Gas 1.. 5
Eli Corder, Tri-County Oil & Gas 2.. 10
Louis Petrie, Bert Thompson 1..... 5
Henry Speak, Dr. Buckner & Co. 1.. dry

Miller Hazel & Co., Dug Bolling 1.. 5
Lawrence F. Roby, The Ohio Oil 1.. 50

Wells completed 7
Production 145
Dry 1

HANCOCK COUNTY

Pellville—Alva Corley, H. L. Ogle & Co. 1 dry

EDMONDSON COUNTY

Near Mammoth Cave—John Poteet, Green River Oil 1 ..... dry

WAYNE COUNTY

District 2—H. E. Coffee, Somerset Oil 3 1
District 3—Eli Phipps, John Dillon 2 ... 3
District 15—E. G. Guffey, Marsh & Hicks 1 ..... dry

Wells completed 3
Production 4
Dry 1

ESTILL COUNTY

District 8—John Sparks, Brenner, Adams & Co. 8 3
Eliza Stacey, Brenner, Adams & Co. 7 3
John Goff, Reno Oil, 6, 7 ..... dry
Mitchell, Reno Oil 5 3
Mitchell, Reno Oil 6 3
A. J. Rawlins, Waco Oil 15 5
A. J. Rawlins, Waco Oil 16 5
J. D. Alexander, Superior Oil Corp 22 2
J. D. Alexander, Superior Oil Corp 26 5
J. D. Alexander, Superior Oil 27, 28.. dry
Thomas Herndon, Superior Oil 21.... 3

Wells completed 13
Production 30
Dry 4

LEE-OWSLEY

District 17—Dart & Short, Harris-Spence D. & T. 3 2
District 18—Wiley Bryant, Cook & Co. 2 2
District 20—Sarah Vanderpool, Tipton & Tackett 3 ..... dry
Childers, Crit Childers 5 10
District 37—Dave Chadwell, Atlanic Oil Prod. 1 ..... dry

Wells completed 5
Production 14
Dry 2

WOLFE COUNTY

District 9—O. F. Asbury, Superior Oil 7 3

JOHNSON-MAGOFFIN COUNTIES

District 25—B. F. Conley, Reno Oil 9.... 4
District 31—J. W. Frazier, Short Fork Oil 6 10

Wells completed 2
Production 14

FLOYD COUNTY

District 21—Frank Gearhart, United Carbon Black 2 ..... gas

LAUREL COUNTY

Ten miles south of London, Unknown 1 dry

CLAY COUNTY

Burning Spings-Crane Creek, C. R. Dulin 1 ..... gas

WARREN COUNTY
Wells Drilling

Bowling Green—John Richards, Ohio Oil 1.
Mel Freeman, Lucky Strike Oil 1.
J. W. Vanmeter, Orin Wood 1.
H. M. Bryant, Thomson Oil 8.
Gillespie 103-A, Baker-Jones Oil 8.
J. W. Lowe, Miami O. & G. 8.
D. C. Butler, Thessen & Cupler 3.
Ora S. Davenport, Ruth Turner 5.
Keller, Alf F. Hughes 1.
Wells drilling, 9.

ALLEN COUNTY
Wells Drilling

Scottsville—Burton Bros., Russell Oil 1.
L. M. Nichols, White Plains O. & G. 1.
E. H. Woods, Mid-Southern Oil 19.
Jim Bradley, Reher & Co. 1.
I. Strait, Dodson & Strait 1.
Connie Justice, James Dobie 1.
Max Willoughby, Dye & Dye 1.
Jess Stitt, Frank Duchen 1.
Arla Wade, J. R. Poynter & Co. 1.
J. Willoughby, Ross Works 1.
Riley Hunt, Riley Hunt 8.
W. H. Reed, Harley & Coatsworth 10.
Wells drilling, 12.

BARREN COUNTY
Wells Drilling

Glasgow—Thomas Wheeler, J. W. Porter & Co. 2.
Christensen, Christensen & Co. 1.
Hutton, Lew J. Emery, Jr., Sons Co. 1.
J. E. Bray, Ziegler 2.
Christ Ellis, Cregle & Co. 4.
U. M. Smith, Wood Oil 4.
Burley Neely, Mazel Oil 8.
Owens, Samson Oil 1.
Wallace Page, Hunt, Mitchell & Co. 1.
Browning, Langston & Co. 3.
Unknown, Norris, Frazier & Co. 2.
Johnson, Samson Oil 3.
Walter Browning, Samson Oil 11, 12.
Loden, Samson Oil 8.
Nichols, Hunt, Leach & Co. 3.
Browning, Hunt, Leach & Co. 1.
Earl Nichols, J. D. White & Co. 7.
Shirley, Dandals & Co. 2.
Sam Gooden, A. W. Ziegler 4.
Wells drilling, 19.

OHIO COUNTY
Wells Drilling

Hartford—D. S. Gray, The Ohio Oil 5.
James C. Ellis, The Ohio Oil 12.
W. T. Greer, The Ohio Oil 1.
S. S. Phillips, The Ohio Oil 3.
J. D. Davis, The Ohio Oil 2.
J. C. Smith, Wood Oil 5.
R. A. Duke, Wood Oil 1.
Mary J. Elmore, Wood Oil 21.
Pat Hoagland, Wood Oil 1.
Marion Moore, Ile Lang 1.
Charles Carden, unknown parties 1.
Howard Heiter, White Plains O. & G. 6.
Everette Maiden, White Plains O. & G. 1.
Ada Kelly, White Plains O. & G. 2.
E. G. Owen east 41 acres, Daugherty & Co. 1.
Hill Rhodes, Daugherty & Co. 4, 5.
Cora Wells, Daugherty & Co. 10, 11.
Bartlett heirs, Creek Drilling 2.
Pannie Lake, Creek Drilling 13.
Spence Bartlett, James C. Ellis 4.
Ada Kelsh, James C. Ellis 3.
B. L. Gossett, James C. Ellis 3.
Mary Cudiff, James C. Ellis 3.
J. R. Weller, James C. Ellis 2.
Wilbur King, Leeper Oil 2.
Bell Sharp, Leeper Oil 1.
J. I. Bartlett 10 acres, Gourney Dev. 2.
Ollie Ezell, Young & Lee 2.
W. W. Moseley, Rex-Pyramid Oil 1.
J. L. Stinnett, Rex-Pyramid Oil 4.
Ollie Ezell 50 acres, Daily & Lowman 1.
Baker Bros., Daily & Lowman 1.
Don Mitchell, Young & Lee 1.
S. V. Flowers, H. A. Henry 5.
Barr 118 acres, Jordon, Short & Co. 1.
Bob Hamilton, Kelly, Yewell & Co. 2.
Mary E. Wilson, E. Patton 6.
Sherman Smith, Miller & Damron 1.
Mark Renfrew, Thrasher & Shouse 3.
Widow Whobrey, Sunnydale Oil & Gas 1.
A. P. Kelly, S. H. Russell 3.
E. E. Fuqua, Russell & Co. 1.
Joe Bellomy, Russell & Co. 1.
A. D. Dickens, D. T. Bolling & Co. 3.
Vincent J. Steele, Globe Oil Co. 1.
Near Deanfield, Deanfield Oil 1.
W. S. Howard, Smith & Lang 1.
Wells drilling, 49.

DAVIESS COUNTY
Wells Drilling

Whitesville—McLemore, Ohio Oil 1.
Lawrence F. Roby, Ohio Oil 2.
Wimp, McMahon & Co. 1.
Shores Taylor, Overstreet & Co. 1.
W. G. Hayden, C. L. Young & Co. 1.
Tom Stevens, Perry Jolly 1.
Burns, Sam J. Patrick 1.
J. M. Miles, Thompson & Co. 5.
John Roby, Leeper Oil 7.
Wells drilling, 9.

McLEAN COUNTY
Well Drilling

Calhoun—Ge, Barr, Marvin Jordon & Co. 1.

HANCOCK COUNTY
Rig

Pellville—C. H. Henning, E. M. Stebbins 1.

CUMBERLAND COUNTY
Well Drilling

Kettle Creek—Milt Smith, Smith & Smith 1.

CLINTON COUNTY
Well Drilling

Wolf River—Pierce, McClintock, Reed & Heckathorn 11.

BUTLER COUNTY
Wells Drilling

Morgantown—W. A. Newton, Fowler, Andrews & Hogan 1.
J. F. Harp, R. E. Lingenfelder 1.
Wells drilling, 2.

HOPKINS COUNTY
Well Drilling

Southard—Chas. Hibbs, Indiana-Illionis Oil Co. 1

WAYNE COUNTY
Wells Drilling

District 2—Huffaker, B. S. Huffaker 5.
District 3—Foister heirs, John Dillon 1.
District 13—Nancy Jones & Co., Wm. O. Southern, Jr. 9.
Wells drilling, 3.

ESTILL COUNTY
Wells Drilling

District 8—J. D. Alexander, Superior Oil Corp. 29, 30.
Eliza Stacey, Brenner, Adams & Co. 8.
A. J. Rawlins, Waco Oil 17.
Wells drilling, 3.

JOHNSON-MAGOFFIN COUNTIES
Rigs

District 27—Frank Prater, Model Oil 4.
Lemaster, Henry Lemaster 3.

Wells Drilling

District 27—W. L. May, Sam J. Patrick 3.
Geo. Collins, Adams & King 1.
Conley heirs, Woodruff Des L. Co. 1.
District 31—Harriett Hammond, Hupp, Duff & Co. 2.
H. B. Adams, Sr., Oliver Jenkins & Co. 3.
H. B. May, B. F. Syndicate 2.
Rigs, 2; wells drilling, 5; total, 7.

FLOYD-KNOTT COUNTIES
Wells Drilling

District 21—J. N. Allen, Ivyton Oil & Gas 1.
Helen Martin, Ivyton Oil & Gas 1.
Tom Turner, Ivyton Oil & Gas 1.
Woots Gearhart, Ivyton Oil & Gas 1.
Sada Allen, Distill Martin Oil & Gas 1.
Oak Osborn, Distill Martin Oil & Gas 2.
Wells drilling, 6.

KNOX COUNTY
Wells Drilling

Bailey Switch—Dizner, Dizney & McKee 2.
Sinking Creek—Foreman, Foreman Lmbr. 1.
Red Bird Creek—Beattyville parties 1.
Wells drilling, 3.

McCREARY COUNTY
Well Drilling

District 3—Asher, Sampron & Co. 2.

CLAY COUNTY
Well Drilling

Crane Cree—F. P. Crawford 1.

TENNESSEE
CLAY COUNTY
Wells Drilling

Celina—John Pennington, Thomas Wimmer 1.
Charles Short, Burman & Price 1.
S. Thurman, Whi.enbit Gas 1.
C. A. Greenwood, E. G. Brandenburger & Co. 2.
Thos. Long, J. H. McClurkin 1.
Coulson, Keon & Co. 1.
Robt. Clark, Clark & Aber 1.
Davis, Bovaird & Shirk 1.
Bob Upton, J. L. Miller 1.
Lester Donaldson, H. C. Kraft 1.
Sidwell, Whitmer Oil & Gas 1.
Grady Sidwell, J. S. Aber 1.
Barlow Langford, J. S. Aber 2.
Keisling, J. L. Miller 4.
Waddle, Hughes-Rife Syndicate 1.
William Pennington, The Ohio Oil 3.
Tidwell, Clark, Bovaird & Shirk 1.
Turner Clan, Carnahan Oil 2.
Rich, Howard-Dooley-Clark 3.
Arms, J. S. Aber 5.
Wolf River, Pittsburgh Interests 2.
Wells drilling, 21.

MACON COUNTY
Well Drilling

Northeast of Bolling Springs, Unknown 1.

OVERTON COUNTY
Well Drilling

Livingstone Pike—Near Timothy, The Ohio Oil 1.

PICKETT COUNTY
Wells Drilling

Juetts Creek—Luther Martin, Bryson & Stinson 1.
B. C. Arney, Turner, Lewis & Co. 1.
Wells drilling, 2.

JACKSON COUNTY
Wells Drilling

Near Gainesboro—Unknown, W. S. Hughes 1.
Tom Draper, Pittsburgh Oil & Gas 1.
Lock Branch—W. R. Hawkins, Celina Oil & Gas 9, 10.
Flynns Lick—Wittmer Oil & Gas 1, 2.
Free State, Dr. Brooks & Co. 1.
Wells drilling, 7.

TROUSDALE COUNTY
Well Drilling

Near Hartsville—Goad, The Ohio Oil 1.

COFFEE COUNTY
Well Drilling

Near Belmont—Dr. C. E. Price, Tenn-Ky. Oil & Gas 1.

PUTNAM COUNTY
Wells Drilling

Sinking Creek—J. A. Drake & Co. 1.
Buffalo Creek—Tenn. Alabama Oil 1.
Wells drilling, 2.

MISSISSIPPI
MONROE COUNTY
Rigs

Amory—West, Amory Petroleum 1.
T. 13-7e—Mawk, L. B. Mawk 1.

Wells Drilling

Section 8-13-17—Amory Petroleum 1.
Section 25-15-17—Frank Rye, Natural Gas & Fuel Corp. 1.
Section 25-15-19—Acker, Sulton Bros. 1.
Section 14-13-18—Creak, Buffalo Oil & Gas 1.
Rigs, 2; wells drilling, 4; total, 6.

FRANKLIN COUNTY
Rig

Jackson—Pearl River, New York parties 1.

COPIAH COUNTY
Well Drilling

Section 6-2.1n—Didlake, Olympia O. & G. 1.

KOSCUSKI COUNTY
Rig

Near Alta—B. B. Jones, Unknown parties 1.

ITAWAMBA COUNTY
Rigs

Near Fulton—Due Steel Oil 1.
Near Hopewell—Ewing & McAlpin 1.
Section 16-10-10—Evans, Amory Pet. 1.
Rigs, 3.

SIMPSON COUNTY
Rig

Section 34-4-13—B. Livingstone & Co. 1.

Well Drilling

Section 15-2-4—Kendall, Graves-Jones interests 1.
Rig, 1; well drilling, 1; total, 2.

YAZOO COUNTY
Well Drilling

Section 25-13-1w—Reed, Free Run Oil 1.

WASHINGTON COUNTY
Well Drilling

Section 30-14-19—Allen, Alhambra Oil 1.

TALLAHATCHIE COUNTY
Well Drilling

T-32-6—Bardwell, Ned R. Rice & Co. 2.

MADISON COUNTY
Wells Drilling

Section 29-10-4e—Trolis, Transcontinental 1
Section 23-10-3e—McCracken, Roxana Pet. 1.
Wells drilling, 2.

STONE COUNTY
Well Drilling

Section 36-3-12—Near McHenry, Magic City Oil 1.

HINDS COUNTY
Well Drilling

Near Edwards—Baker & Co. 1.

RANKIN COUNTY
Well Drilling

Section 24-3-3—Bell River, D'Lo Dev. 1.

WEBSTER COUNTY
Well Drilling

Section 15-21-11—Hensley, Cumberland O. 1.

LEAKE COUNTY
Well Drilling

Near Conway—Pittsburgh Oil & Gas 1.

LEE COUNTY
Rig

Section 14-8-8—Buffalo Oil & Gas 1.

NESHOBA COUNTY
Rig

Near Philadelphia—S. B. King & Co. 1.

ALCORN COUNTY
Rig

Near Corrin.h—A. M. Keisker 1.

WARREN COUNTY
Well Drilling

Near Charleston—Rich & Co. 1.

JEFFERSON COUNTY
Well Drilling

Section 11-6n-1sw—S. W. Burkett, Brassfield Oil 1.

ALABAMA
MORGAN COUNTY
Well Drilling

Section 6-6-4—English, Decatur Oil 1.

HALE COUNTY
Well Drilling

Greensburg—Hale Oil 1.

SHELBY COUNTY
Well Drilling

Chelsea—Scott, Cooksey & Co. 1.

WILSON COUNTY
Well Drilling

Selma—Blue Belle Oil 1.

FRANKLIN COUNTY
Well Drilling

Section 28-18-14—Hobson, Pittsburgh Oil & Dev. 1.

MARION COUNTY
Well Drilling

Section 29-11-14—Clark, F. J. McAlpin 1.

LAWRENCE COUNTY
Well Drilling

Near Danville—Greater Huntsville O. & G. 1.

FLORIDA
MONROE COUNTY
Wells Drilling

Section 6-51-31—Florida Natl. Resources 1.
T. 35-34—Biscayne Oil & Gas of Miami 1.
Wells drilling, 2.

GLADES COUNTY
Wells Drilling

Section 5-38-2—Langford & Co. 1.
Section 5-38-22—Seminole Pe.. Corp. 1.
Wells drilling, 2.

DADE COUNTY
Well Drilling

Section 19-54-35—Tamiami Trail, Miami Oil & Gas 1.

JEFFERSON COUNTY
Well Drilling

Section 19-2-5e—Miller-Gossard, Southern States Oil 1.

MANATEE COUNTY
Well Drilling

Section 15-34-17—Robinson, Gaines interests 1.

LEON COUNTY
Well Drilling

Section 2-2-1e—Rhodes, Gulf Oil Dev. 1.

HERNANDO COUNTY
Well Drilling

Section 2-33-19—Unknown parties 1.

PASCO COUNTY
Wells Drilling

Section 25-25-16e—Unknown parties 1.

OKEECHOBEE COUNTY
Well Drilling

Section 22-26-35—Opal district, Preston & Gaines 1.

SARASOTA COUNTY
Well Drilling

Near Venice—Ringling, John Ringling 1.

HIGHLANDS COUNTY
Well Drilling

Near Seabring—Unknown parties 1.

NORTH CAROLINA
SAMPSON COUNTY
Well Drilling

Near Clinton—Jim Simmons, Orr, Wherry & Co. 1.

GULF COAST FIELDS

	Comp.	Prod.	Dry	Gas	Rig	Dig.	Tl.
Austin	6	10	3	1	2	3	5
Brazoria	2	500	1	0	0	12	12
Chambers	2	240	1	0	2	8	16
Fort Bend	18	6,074	7	0	3	24	27
Hardin	4	43	0	0	0	7	7
Harris	7	6,965	1	0	7	21	28
Jefferson	14	14,553	0	1	0	21	21
Liberty	6	295	1	0	1	14	15
Matagorda	1	0	1	0	0	3	3
Orange	4	167	1	0	0	11	11
Wharton	12	190	11	0	11	8	19
Misc. (Texas)	8	0	8	0	4	4	8
Calcasieu	6	2,150	1	0	5	17	22
Cameron	2	1,000	1	0	1	3	4
Misc. (La.)	4	0	4	0	5	16	19
Total Nov..	96	32,127	41	2	39	172	211
Total Oct..	89	44,980	37	3	32	139	171
Difference .	7	12,863	4	1	7	33	40

WELLS COMPLETED
AUSTIN COUNTY

Sundehusen, Aronson et al 3 5
Pomacal, Conklin et al 4 5
Payne, Humble O. & R. 1 ..... dry
Payne, Humble O. & R. 2 ..... dry
Kelleswski, Humble O. & R. 1 ..... gas
Washington, Humble O. & R. 1 ..... dry

Wells completed 6
Production 16
Dry 3
Gas 1
Gas production 5,000,000

BRAZORIA COUNTY

Davidson, Texas Gulf Sulphur Co. 2 .. dry
Kirby, Bennett Pet. Corp. 1 500

Wells completed 2
Production 500
Dry 1

CHAMBERS COUNTY

Myers fee, Humble O. & R. 4 240
Kirby, Humphreys Corp. 5-B. ..... dry

Wells completed 2
Production 240
Dry 1

COLORADO

Tait, R. E. Waldrop 1 ..... dry

FORT BEND

Robinson, Abercrombie & Co. 3 656
Blakely, Cunningham Prod. Co. 2 800
Blakely, Gordon, Folwell & Dickson 1.. 1300
Trone, Gulf Prod. Co. 5 ..... dry
Wolf, Gulf Prod. Co. 5 ..... dry
Beard, Gulf Prod. Co. 1-A ..... dry
Chase, Gulf Prod. Co. 7 54
Davis, Gulf Prod. Co. 42 200
West-Shenck, Gulf Prod. Co. 12 1328
Bassett Blakely, Gulf Prod. Co. 16-C.. 45
Robinson, Navarro Oil Co. 2-B ..... dry
Robinson, Navarro Oil Co. 3-B 750
Fritz Meier, Rycade Oil Corp. 4 168
Fritz Meier, Rycade Oil Corp. 5 ..... dry
Nash, Rycade Oil Corp. 12 ..... dry
Wisdom, Rycade Oil Corp. 16 ..... *250
Wisdom, Rycade Oil Corp. 17 523
Farmer, Sun Oil Co. 3 ..... dry

Wells completed 18
Production 6074
Dry 7

*Also 30,000,000 feet of gas.

GRIMES COUNTY

Dodd, Morico Oil Co. 1 ..... abd
Black, Schnoffer et al 1 ..... dry

Wells completed 2
Dry 2

HARDIN COUNTY

Honeymoon, Adabel Oil Co. 116 3
Bates, East Batson Oil Co. 6 15
Hardin, Lake View Oil Co. 29 15
Knight, Paraffine Oil Co. 43 10

Wells completed 4
Production 43
Dry or gas 0

HARRIS COUNTY

Boyles, Associated Oil Co. 1 1800
Taylor, Gulf Prod. Co. 19 700
Taylor, Gulf Prod. Co. 21 450
Burt-Griffith, Gulf Prod. Co. 1 ..... dry
Chapman-Bryan, Gulf Prod. Co. 4 15
Cain, Navarro Oil Co. 3 2500
Settegast, Rio Bravo Oil Co. 6-B 1500

Wells completed 7
Production 6905
Dry 1
Gas 0

HOUSTON COUNTY

Ham, The Texas Co. 1 ..... dry

JACKSON COUNTY

Drushell, Vanderbilt Pet. Co. 2 ..... dry

JEFFERSON COUNTY

Weed, Battleship Oil Co. 1 500
Gladys, Gulf Prod. Co. 227 15
Marrs-McLean, Gulf Prod. Co. 11-A.. 770
Marrs-McLean, Gulf Prod. Co. 16-A.. 458
T. & N. O., Rio Bravo Oil Co. 58 200
Price, Sun Oil Co. 4 150
McFaddin, Yount Lee Oil Co. 10 1000
McFaddin, Yount Lee Oil Co. 37 ..... gas
McFaddin, Yount Lee Oil Co. 41 360
McFaddin, Yount Lee Oil Co. 45 3200
McFaddin, Yount Lee Oil Co. 47 4000
Gladys, Yount Lee Oil Co. 15 1000
Gladys, Yount Lee Oil Co. 44 1200
Gladys, Yount Lee Oil Co. 45 1700

Wells completed 14
Production 14,553
Dry 0
Gas 1

LIBERTY COUNTY

Phoenix, Gulf Prod. Co. 29 ..... dry
Thomas, Gulf Prod. Co. 10 65
Jones, Harrison Oil Co. 1 50
Dolbear, Republic Prod. Co. 43 64
Merchant, The Texas Co. 7 45
Hannah fee, The Texas Co. 4 71

Wells completed 6
Production 295
Dry 1

MATAGORDA COUNTY

Hudson, Valley Oil Co. 1 ..... dry

MONTGOMERY COUNTY

Westcott, Cordell & Lynne 1 ..... dry

ORANGE COUNTY

Hager & Moore, Gulf Prod. Co. 3 50
Hager, Gulf Prod. Co. 19 48
Jackson, Supreme Oil Co. 2 9

Clesson, Texhoma Oil Co. 16 ..... dry

Wells completed 4
Production 107
Dry 1

WALLER COUNTY

Fluckinger, Fluckinger et al 1 ..... dry

WASHINGTON COUNTY

Grater, W. J. Becker et al 1 ..... dry

WHARTON COUNTY

Woytek, Benson & Abercrombie 1 190
Banker, Hyde Prod. Co. 7 ..... dry
Mensing, Ingram Prospecting Co. 1 ..... dry
Kostelink, Miller et al 5 ..... dry
Farmer, Sun Oil Co. 2 ..... dry
Anderson, Texas Gulf Sulphur Co. 1 ..... dry
Banker, Texas Gulf Sulphur Co. 6 ..... dry
Kostelink, Texas Gulf Sulphur Co. 1 ..... dry
Bay, Texas Gulf Sulphur Co. 2 ..... dry
Cloud, Texas Gulf Sulphur Co. 1 ..... dry
Keller, Weed-Gayle Oil Co. 8 ..... dry
Banker, Weed-Gayle Oil Co. 10 ..... dry

Wells completed 12
Production 190
Dry 11

LOUISIANA GULF COAST

ASCENSION PARISH

United Land Co., Gulf Ref. Co. ..... dry

CALCASIEU PARISH

Higgins, Gulf Ref. Co. 10-B 600
Lincoln, Gulf Ref. Co. 3 150
Industrial, Gulf Ref. Co. 8 ..... dry
Paraffine, Hercules Oil Co. 3 1000
Gray, Vinton Pet. Co. 52 150
Koonce, Wilson-Broach 2 250

Wells completed 6
Production 2150
Dry 1

CAMERON PARISH

Caldwell, Calcasieu Oil Co. 2 1000
State, Yount Lee Oil Co. 5 ..... dry

Wells completed 2
Production 1000

IBERIA PARISH

Schwing, Calcasieu Oil Co. 1-A ..... dry

ST. MARY'S PARISH

Grand Lake, Border L. ..... dry
Herbert, Sabine Oil Co. 1 ..... dry

RIGS AND WELLS DRILLING

AUSTIN COUNTY

Rigs and Locations

Sundehusen, Aronson et al 4.
Pomacal, Carlisle et al 1.

Wells Drilling

Wilson, Humble Oil & Refining Co. 1.
Gotosky, Humble Oil & Refining Co. 2.
Ward, Weedock et al 1.

Shut Down

Gobel, Alexander & Lyle 1.
Trenckmann, T. F. Wood 1.
Rigs and locations, 2; wells drilling, 3; total, 5.

BRAZORIA COUNTY

Wells Drilling

Bartlett, Danciger Oil Co. 1.
Perry, Gulf Production Co. 3.
Allen Bernard, Roxana Petroleum Corp. 1.
Allen, Roxana Petroleum Corp. 4.
Bell, Roxana Petroleum Corp 2.
Random, Roxana Petroleum Corp. 1.
Hunckle, Starks et al 3.
Pabst, Texas Gulf Sulphur Co. 1.
Pabst, Texas Gulf Sulphur Co. 2.
Davidson, Texas Gulf Sulphur Co. 3.
Proebscle, Texas Gulf Sulphur Co. 1.
Proebstle, Texas Gulf Sulphur Co. 2.

Shut Down

Muldoon, Rucks et al 1.
Rigs, none; wells drilling, 12; total, 12.

CHAMBERS COUNTY

Rigs and Locations

Trinity River, Pure Oil Co. 1.
Old River Lake, Pure Oil Co. 1.

Wells Drilling

Smith, Gulf Production Co. 2.
Meyers, Humble Oil & Refining Co. 5.
Kirby, Humphreys Corp. 2-B.
Kirby, Humphreys Corp. 6-A.
Cade, McLean Oil Co. 6.
Cade, McLean Oil Co. 10.
Cade, McLean Oil Co. 11.
Cade, McLean Oil Co. 6-C.

Shut Down

Fisher, R. L. Bartlett, 1.
Fisher, S. T. Hindman et al 1.
Lost River, Pure Oil Co. 1.
Rigs and locations, 2; wells drilling, 8; total, 10.

COLORADO COUNTY

Svreck, Merritt Drilling & Development Co. 1.

FORT BEND COUNTY

Rigs and Locations

Blakely, Cunningham Production Co. 1.
Wisdom, Rycade Oil Corp. 20.
Wisdom, Rycade Oil Corp. 21.

Wells Drilling

Robinson, Abercrombie & Co. 4.
West Schenck, Abercrombie & Co. 2.
West Schenck, Abercrombie & Co. 4.
Blakely, Tom Blakely et al 1.
Blakely, Cullen et al 1.
Lafferty, H. R. Cullen 1.
Blakely, Cunningham Production Co. 3.
Blakely, Gordon, Folwell & Dickson 2.
Sharp, Gordon, Folwell & Dickson 1.
West Schenck, Gulf Production Co. 13.
Luscher, Gulf Production Co. 10.
Davis, Gulf Production Co. 43.
Davis, Gulf Production Co. 44.
Moore, Gulf Production Co. 14.
Beard, Gulf Production Co. 2-A.
Woolf, Gulf Production Co. 6.
Robinson, Navarro Oil Co. 1-B.
Wisdom, Rycade Oil Corp. 17.
Wisdom, Rycade Corp 18.
Wisdom, Rycade Oil Corp. 19.
Farmer (J. R.), Sun Oil Co. 3.
Farmer (H. R.), Sun Oil Co. 2.
Kasparek, Sun Oil Co. 1.
Blakely, Sam Watts 1.
Rigs and loca tions, 3; wells drilling, 24; total, 27.

GRIMES COUNTY

Shut Down

Cuthrell, Pundt et al 2.
Rigs, none; wells drilling, none.

HARDIN COUNTY

Wells Drilling

Millhouse, S. R. Buchanan, 95.
Hodges, Capitol Oil Co. 9.
Bates, East Batson Oil Co. 7.
Tabor, Gulf Production Co. 17.
Merchant, Orange Petroleum Co. 4.
Teel, Regna Oil Co. 2.
Sterling, The Texas Company 1.

Shut Down

Honeymoon, Adabel Oil Co. 115.
Hooks, Weldon Oil Co. 17.
Rigs, none; wells drilling, 7; total, 7.

HARRIS COUNTY

Rigs and Locations

Whitehead, A. P. Producing Co. 2.
Howe, Cullen et al 4.
Hammon, How-Texas Oil Co. 1.
Adorie-Lobit, Hunt et al 1.
Hammon, Lipper et al 1.
Rosenthal, Frank Long 1.
Cain, Navarro Oil Co. 4.

Wells Drilling

Higgings, J. H. Bashara 2.
Perry, Gulf Production Co. 1.
Taylor, Gulf Production Co. 22.
Hoffman-Gaillard, Gulf Production Co. 14.
Wright, Gulf Production Co. 21-A.
Warren, Humble Oil & Refining Co. 2.
Simms-Smith, Humble Oil & Refining Co. 72.
Ashbel Smith, Humble Oil & Refining Co. 4.
Sweet, Humble Oil & Refining Co. 10.
Traper, Hute Oil Co. 1.
Kitsman, Juanita Oil Co. 1.
Marland fee, Leonard Petroleum Co. 1.
Hume, Moody Corp 2.
Grace Addey, Port City Oil Co. 1.
Bryan, Powell Oil Co. 6.
Bryan, Powell Oil Co. 6.
P. S. A., Rio Bravo Oil Co. 1.
P. S. A., Rio Bravo Oil Co. 7.
G. H. & S. A., Rio Bravo Oil Co. 1.
G. H. & S. A., Rio Bravo Oil Co. 101.
Fitzsimmons, T. G. Shaw et al 1.
Fitzsimmons, Sun Oil Co. 1.

Shut Down

Fee, P. S. Griffith 2.
Humble fee, Smith et al 1.
Freeman-State, Southern Exploration Co. 6.
Rigs and locations, 7; wells drilling, 21; total, 28.

HOUSTON COUNTY

Rigs

Carter, The Texas Company 1.

Shut Down

Aus in, Porter et al 4.
Rigs, 1; wells drilling, none; total, 1.

JACKSON COUNTY

Rigs

Drushel, Wright Bros. 6.

JASPER COUNTY

Wells Drilling

Kountze, Raymond et al 1.

JEFFERSON COUNTY

Wells Drilling

Tyrell, Beaumont Oil & Prospecting Co. 1.
Gladys City, J. O. Davis 2.
Gladys City, J. O. Davis & Kinnear 1.
Staiti, Freeport Sulphur Co. 3.
Staiti, Freeport Sulphur Co. 4.
Bordages, Gulf Production Co. 4.
Marrs-McLean, Gulf Production Co. 10-A.
Daisy Roche, Gulf Production Co. 9.
Jack & Duff, Gulf Produc ion Co. 6.
Fee, Magnolia Petroleum Co. 2-A.
Fee, Magnolia Petroleum Co. 7.
Crosby, Jim McMurray 1.
T. & N. O., Rio Bravo Oil Co. 2.
McLean, Sun Oil Co. 6.
McLean, Sun Oil Co. 11.
McLean, Sun Oil Co. 16.
McLean, Sun Oil Co. 17.
Gladys City, Yount Lee Oil Co. 46.
Gladys City, Yount Lee Oil Co. 47.
McFaddin, Yount Lee Oil Co. 39.
McFaddin, Yount Lee Oil Co. 46.

Shut Down

McFaddin, Deep Test Oil Co. 1.
West, Port Arthur Oil & Gas Co. 4.
Young, South Spindletop Oil & Devel. Co. 1.
Banks, Turnbow 2.
Rigs, none; wells drilling, 21; total, 21.

LIBERTY COUNTY

Rigs and Locations

Pruett, Deering & Kayser 1.

Wells Drilling

Hinchliff, Barlow et al 1.
Barngrover, Empire Gas & Fuel Co. 27.
Phoenix, Gulf Production Co. 87.
Phoenix, Gulf Production Co. 1.
Thomas fee, Gulf Production Co. 11.
Welder, Humble Oil & Refining Co. 5.
Harrison, Hull Oil Co. 7.
Harrison, Navarro Oil Co. 3.
Merchant, Republic Production Co. 7.
Dolbear, Republic Production Co. 49.
Dolbear, Republic Production Co. 89.
Condit, Sinclair Oil & Gas Co. 4.
Harvard, The Texas Company 1.
Hannah, The Texas Company 7.

Shut Down

Quintette, Harrison Oil Co. 2.
Barker, Miller et al 1.
Gardner, Titwell et al 1.
Rigs and locations,1; wells drilling, 14; total, 15.

MATAGORDA COUNTY

Canney, John Deering et al 1.
Sanborn, Gulf Production Co. 4.
Kountze, Rycade Oil Corp. and Humble Oil & Refining Co. 5.

Shut Down

Hawkins, Matagorda Development Co. 1.
Rigs, 0; wells drilling, 3; total, 3.

MONTGOMERY COUNTY

Wells Drilling

Fitch, Brains et al 1-A.
Hardy, Johnson & Hardy 1.
Rigs, 0; wells drilling, 2; total, 2.

ORANGE COUNTY

Wells Drilling

McLean, Brownie-Babette Oil Co. 3.
Hager & Moore, Gulf Production Co. 1.
Lee Hager, Gulf Production Co. 2.
Lee Hager, Gulf Production Co. 18.
Leon, Gulf Coast Oil Corp. 5.
Kishi-Lang, Humble Oil & Refining Co. 1.
Meyers, Humble Oil & Refining Co. 5.
State, Rycade Oil Corp. 13-E.
Granger, Sinclair Oil & Gas Co. 4.
Granger, Sinclair Oil & Gas Co. 5.
Brown, Suh Oil Co. 2.

Shut Down

Carbello, Rex Petroleum Co. 6.
Rigs, 0; wells drilling, 11; total, 11.

WALKER COUNTY

Shut Down

Thompson, Thompson et al 1.

WALLER COUNTY

Rigs and Locations

Fluckinger, Fluckinger et al 2.

Wells Drilling

Garrett, J. R. Garrett et al 1.
Rigs, 1; wells drilling, 1; total, 2.

WASHINGTON COUNTY

Rigs and Locations

Brinkmeyer, Pratt et al 2.

Wells Shut Down

Lehman, C. A. DeWare 1.
Konieczny, Pratt & Hewitt 1.
Rigs, 1; wells drilling, 0; total, 1.

WHARTON COUNTY

Rigs and Locations

Kostelink, Benson & Abercrombie 3.
Bay, Gayle & Patterson 3.
Chase, Gulf Production Co. 8.
Mullins, Southern Exploration Co. 1.
Farmer, Sun Oil Co. 3.
Farmer, Sun Oil Co. 4.
Urckert, Texas Gulf Sulphur Co. 1.
Werner, Texas Gulf Sulphur Co. 1.
Bay, Weed-Gayle Oil Co. 5.
Bay, Weed-Gayle Oil Co. 6.
Keller, Weed-Gayle Oil Co. 9.

Wells Drilling

Fotjek, Hyde Production Co. 1.
Hounshell, Ingram Prospecting Co. 1.
Crook, Nail et al 1.
Banker, Texas Gulf Sulphur Co. 5.
Bay, Texas Gulf Sulphur Co. 4.
Chase, Texas Gulf Sulphur Co. 2.
Pachy, Texas Gulf Sulphur Co. 1.
Volney, Texas Gulf Sulphur Co. 1.
Rigs and locations, 11; wells drilling, 8; total, 19.

LOUISIANA GULF COAST
ACADIA PARISH

Rigs and Locations

Jennings-Heywood, Port City Oil Co. 8.
S. F. S., Port City Oil Co. 8.

Wells Drilling

Conklin, Cline et al 6.
Conklin, Evangeline Oil Co. 1.
Latrielle, The Texas Company 106.
Rayne heirs, The Texas Company 2.

Shut Down

Crowley, Coastal Oil & Refining Co. 95.
S. F. S., Port City Oil Co. 2.
Rigs and locations, 2; wells drilling, 4; total, 6.

ASCENSION PARISH

Wells Drilling

Wilbert, Roxana Petroleum Corp. 1.

CALCASIEU PARISH

Rigs and Locations

Hill, Drysdale-Savoy Oil Co. 2.
Moore, Green Oil Co. 9.
Gray, Marrs McLean 12.
Miller, Vacuum Oil Co. and Gulf Refining Co. 19.
Wilson, Wilson & Broach 6.

Wells Drilling

Lillard, C. M. Crotty 7.
Lyons, Davis & Walker 1.
Star-Vincent, Gulf Refining Co. 43.
Lutcher-Moore, Gulf Refining Co. 7.
Paraffine, Hercules Oil Co. 3.
Beckenstein, Doctor Kintze 1.
Lyons, Plummer Oil Co. 1.
Ecker, Rex Petroleum Co. 1.
Hunter, Rex Petroleum Co. 6.
Fee, Union Sulphur Co. 722.
Farquahar, Vacuum Oil Co.-Gulf Refining Co. 3.
Farquahar, Vacuum Oil Co.-Gulf Refining Co. 3-A.
Farquahar, Vacuum Oil Co.-Gulf Refining Co. 5.
Bayou D'Inde State, Vacuum Oil Co.-Gulf Refining Co. 4.
Frieber & Woolf, Vacuum Oil Co.-Gulf Refining Co. 2.
Gordon, Vinton Petroleum Co. 9.
Krouse & Manakam, West Edgerly Oil Co. 1.

Shut Down

Bright Penn, Gulf Refining Co. 41.
Bright Penn, Gulf Refining Co. 42.
Bright Penn, Gulf Refining Co. 43.
Benkenstein, Lacola Oil Co. 1.
Dupre, Newton Drilling Co. 1.
Miller, Vacuum Oil Co.-Gulf Refining Co. 8.
Farquahar et al, Vacuum Oil Co.-Gulf Refining Co. 2-A.
Rescue, Vinton Petroleum Co. 5.
Rigs and locations, 5; wells drilling, 17; total, 22.

CAMERON PARISH

Rigs and Locations

Olivier, Calcasieu Oil Co. 1.

Wells Drilling

Calcasieu Lake, Louisiana Land & Exploration Co. A-1.
Sweet Lake, Pure Oil Co. 3.
Sweet Lake, Pure Oil Co. 4.

Shut Down

Sweet Lake, Pure Oil Co. 5.
Rigs and locations, 1; wells drilling, 3; total, 4.

EVANGELINE PARISH

Wells Shut Down

Ducide Guillery, Tom Hincy et al 1.

JEFF DAVIS

Wells Shut Down

LeDoux, Etropal Oil Co. 2.
Walsh, John Carroline et al 1.

IBERIA PARISH

Wells Drilling

Broussard, Gulf Refining Co. 1.
State, Gulf Refining Co. 3-Z.
Vermillion Bay, Louisiana Land & Exploration Co. 1-A.

IBERVILLE PARISH

Wells Drilling

Wilbert, Union Sulphur Co. 1.
Schwing, Union Sulphur Co. 1.

LA FOURCHE PARISH

Wells Drilling

Dilbert-Stark, Gulf Refining Co. 1.

ST. MARTIN PARISH

Wells Drilling

Martin, Pure Oil Co. 3.
Atchafalaya, Rycade Oil Corp. 1.

ST. MARY'S PARISH

Rigs and Locations

Viguerie, Jacob & Dannenbaum 1.

Wells Drilling

Blanche, Louisiana Exploration Co. 1.
Rigs and locations, 1; wells drilling, 1; total, 2.

TERREBONNE PARISH

Wells Drilling

South Down, Southern Gas Co. 3.
Gaidry, Terre Banne Gas Co. 1.

ROCKY MOUNTAIN AREA

WYOMING

Summary of Field Operations

District—	Comp.	Prod. Dry	Gas	Rigs	Drg.	Ttl.
Salt Creek	5	2,614	0	0	5	16	21
Big Horn Co.	0	0	0	0	0	6	6
Carbon Co	0	0	0	0	1	12	13
Converse Co.	0	0	0	0	1	4	5
Fremont Co.	1	0	1	0	1	9	10
Goshen Co.	0	0	0	0	0	1	1
Hot Springs-Washakie	2	0	2	0	1	1	2
Hot Spgs. Co.	0	0	0	0	0	5	5
Johnson Co.	0	0	0	0	1	4	5
Natrona Co.	1	180	0	0	1	3	4
Niobrara Co.	0	0	0	0	1	4	5
Park Co.	0	0	0	0	4	25	29
Platte Co.	0	0	0	0	0	2	2
Sweetwater Co.	3	0	3	0	1	9	10
Sublet Co.	4	246	0	0	3	31	34
Uinta Co.	0	0	0	0	0	2	2
Washakie Co.	0	0	0	0	0	3	3
Weston Co.	0	0	0	0	1	10	11
Total Nov.	16	3,040	6	0	21	147	168
Total Oct.	26	2,318	2	0	29	136	165
Difference	10	722	4	0	8	11	3

COLORADO

Summary of Field Operations

	Comp.	Prod. Dry	Gas	Rigs	Drg.	Ttl.
Total Nov.	15	731	7	2	8	81	89
Total Oct.	12	837	6	0	5	77	82
Difference	3	106	1	2	3	4	7

NEW MEXICO

Summary of Field Operations

	Comp.	Prod. Dry	Gas	Rigs	Drg.	Ttl.
Total Nov.	11	138	9	1	5	81	86
Total Oct.	13	150	11	1	15	104	119
Difference	2	12	2	0	10	23	33

UTAH

Summary of Field Operations

	Comp.	Prod. Dry	Gas	Rigs	Drg.	Ttl.
Total Nov.	2	0	2	0	2	24	26
Total Oct.	2	0	2	0	1	25	26
Difference	0	0	0	0	1	1	0

MONTANA

Summary of Field Operations

District—	Comp.	Prod. Dry	Gas	Rigs	Drg.	Ttl.
Cat Creek	0	0	0	0	4	4
Kevin-Sunburst	32	4,234	11	4	14	24	38
Miscellaneous	16	0	14	2	7	52	59
Total Nov.	48	4,234	25	6	21	80	101
Total Oct.	60	2,190	30	5	19	97	116
Difference	12	2,044	5	1	2	17	15

WELLS COMPLETED
WYOMING

10-20-11S Davis, Utah Oil Ref. Co. 1 21
26-43-91 Fort Collins, Utah Oil Ref. Co. 1 ..... dry
35-40-79 SW. Midwest Oil Co. 25 234
34-27-11S California Pet. Corp. 7-D 70
3-26-11S Superior Oil Co. 3 75
3-33-83 Fargo Western Oil Co. 30 .. 180
3-26-90 Good, Texas Production Co. 5 dry
26-40-79 SW. Wyoming Associated 19-L 1,788
25-40-79 SW. Midwest Oil Co. 16 136
23-40-79 NE. Midwest Oil Co. 33-L 110
15-26-90 Prairie Oil & Gas Co. 6-B .... dry
27-5n-3w Kinney-Coastal Oil Co. 1 .... abd
23-40-79 SE. Wyoming Associated 3-L 346
29-15-103 Baxter Basin, Beneficial Oil Co. 1 ..... abd
5-42-90 Avery, Utah Oil Ref. Co. 1.. dry
34-27-11S California Pet. Corp. 4-F ... 80

Wells completed 16
Production 3,040
Dry and abandoned 6

WELLS COMPLETED
COLORADO

23- 4-92 Midwest Refining Co. 18-SD.. 306
2-19-7S Shaw, Continental Oil Co. 1.. 60
21-20-69 Hassler, W. M. Conley 2 5
8- 6-8S Edwards, Texas Prod. Co. 2.. dry
8- 8-6S Parker Oil Co. 1 ..... abd
35-18-7S Continental Oil Co. 578 200
3-34-62 Maldanado, Great Dome Oil & Gas Co. 1 ..... gas
12- 4-92 Camp, Moffat Pet. Co. 1 ..... abd
27-18-7S Abney, Continental Oil Co. 1. dry
17-33-7 Ute lease, Taylor Syndicate.. abd
7- 6-8S Adair, Texas Prod. Co. 4 .... dry
22-12-100 Kuykendall, Ohio Oil Co. 1... gas
10- 4-91 Wick, Texas Prod. Co. 5 100
25- 1-6S Everhart, Boulder Oil Co. 1.. dry
2-19-7S Shaw, Continental Oil Co. 1.. 60

Wells completed 15
Production 731
Gas production 56,000,000
Dry and abandoned 7

WELLS COMPLETED
NEW MEXICO

11-6s-27 Fahrlander, Twin Mounds Oil Co. 1 ..... abd
33-22-27 Lenau, Geo. F. Getty, Inc., 1.. dry
25-19-6 Nightingale, Ohio Oil Co. 1.. dry
22-20-9 Horan, Coon & Harris 1 ..... abd
11-29-11 Larson Oil & Mining 1 ..... abd
32-7n-2e Harland, Valencia Pet. Co. 1 dry
22-26-37 Rhoades, Texas Prod. Co. 1.. 120
3-18-28 Lynch, Skelly Oil Co. 1 18
29-17-18 Dunken Dome, Texas Prod. Co. dry
13-22-29 Workman, Ohio-Marland 1 .. dry
2-31-2e Azotea Oil Co. 1 ..... dry

Wells completed 11
Production 138
Gas 23,000,000
Dry and abandoned 9

WELLS COMPLETED
UTAH

30-34-1S Hughes, Midwest Exploration 1 ..... dry
16-30-2S State, Union Oil Co. of Calif. 1 dry

Wells completed 2
Dry 2

WELLS COMPLETED
MONTANA

33-35- 1 Schacht, Ohio Oil Co. 4 180
35-36- 2 Shaw, Ohio Oil Co. 2 40
4-35- 2 Baker, Ohio Oil Co. 12 49
25-35- 2 McKee, California Pet. 5 ... dry
28-35- 2 Lorensen, California Co. 16 ... 1500
32-35- 1 Caine, "56" Pet. Corp. 35 ... 20
33-35- 1 Haskins, Adams Co. 15 15
28-36- 2 Barthelote, Kalmont Oil Co. .. dry
36-35- 2 State, Homestake Explor. 42 .. dry
36-35- 2 State, Homestake Explor. 43 .. 75
7-34- 1 Harte, Nat. Gas & Oil Co. 4 .. dry
10-35- 2 Bruins, Tom Davis Synd. 5 .. 40
3-34- 2 Tembroek, Frazier et al 5 .... dry
31-35- 1 Allen, Big West Oil Co. 26 .. 35
19-35- 1 Kalispell-Kevin, Arcus Pero. 5 35
33-35- 2 Halloran, Regina Kevin 5 .... dry
7-34- 1 Carlson, Dakota Montana 11 ..1150
32-35- 1 Caine, "56" Pet. Corp. 36..... 300

19-35- 1 Kalispel-Kevin, P. M. K. Oils
8 25
8-34- 1 General Oil Co. ..... gas
7-34- 2 Harte, Hannah Porter 3 1000
15-32- 2 Johnson, Johnson & Johnson 1 gas
8-34- 1 Wilcox, Landry-Hungerford .. gas
7-34- 1 Harte, National Oil & Gas 5.. 25
31-33- 1 Parker, Northern Nat. Gas 1.. gas
6-32- 1 McLean, Peterson 1 ..... dry
29-36- 2 Ferring, Overseas Pet. 1 ..... dry
32-35- 2 Byrne, Munger-O'Connel 1 ... 15
25-35- 3 Goeddertz, Maharg Oil Co. 3 10
18-34- 2 Skinner, Barnhill Oil Co. 3 ... dry
36-35- 2 State, Homestake Explor. 44 .. dry
20-34- 1 Schmidt, Reo Oil & Gas Co. .. dry
18-22- 3 SW, Elkhorn Oil & Gas 1 .... dry
12-22- 3 Mann, Allen Oil Co. 1 ..... dry
18-22- 3 SW, Elkhorn Oil & Gas 1 .... dry
3-22- 3 NW, Elkhorn Oil & Gas 2 .... dry
9-12-14 Wilder, Glenholm Oil Co. 2 .... dry
34-22- 1 Great Northern Mutual ..... dry
35-30- 2 Hiland Van Dalem ..... dry
13-26- 2 Rounds, California Pet. L .... dry
29- 3-27 Glasgow Explo. 1 ..... dry
17-31- 1 Grissom, Dunkirk Oil Co. .. dry
17-37- 4 Dohn, Patterson et al. 1 ..... gas
22-31- 2 Benjamin, Commonwealth Pet. dry
20-26- 1 Johnson, California Pet. 1 .... dry
12-25- 1 Ferdig et al ..... dry
17-25- 1 Kalispell, Calmont Oil Co. .. dry
20-37- 1 Clark, Montana Pacific ..... dry
13-26- 2 Rounds, California Pet. Corp gas

Completed 48
Production 4234
Dry 25
Gas 6

CAT CREEK
Wells Drilling
27-16-28 SE, J. D. Wilson, 2.
Shut Down
21-15-30 SW, Canfield & Davis.
31-15-30 NE, Masser et al.
27-15-30 SE, Chas. Davis et al.
Rigs, 0; wells drilling, 4; total, 4.

KEVIN SUNBURST
Rigs
31-35- 1 Allen, Big West Oil Co. 28.
28-35- 2 Lorensen, California Co. 1.
7-34- 1 Carlson, Dakota Montana, 12.
19-35- 2 Bruins, Tom Davis Syndicate, 6.
32-35 1 Caine, "56" Pet. Corp. 38.
13-34- 2 Craig, Hardrock Oil Co.
24-34- 2 Morton, L-M Oil Co. 1.
27-35- 3 Davis, Majestic Oil & Gas 1.
19-33- 1 Swan Vine, Northern Nat. Gas Dev. 1.
27-35- 1 Levnick, Rose Oil Co. 1.
4-35- 2 Abell, Abell Oil Co. 3.
8-35- 2 Gillis, Calgary-Sunburst Oil Ltd. 2.
31-33- 1 Lie-erg, Sunburst Oil & Refg. Co. 1.
Wells Drilling
31-35- 1 Allen, Big West Oil Co. 27.
15-35- 2 Emmert, Ohio Oil Co. 5.
33-35- 1 Schat, Ohio Oil Co. 5.
2-35- 2 Barr, Ohio Oil Co. 4.
24-35- 2 McKee, California Co. 9.
26-35- 2 Abell, Hardrock Oil Co. 6.
31-35- 1 Allen, Big West Oil Co. 27.
1-34- 1 Allen, Big West Oil Co. 27.
1-34- 2 Faunce, Hibbing-Sunburst Oil, 3.
32-35- 1 Putnam, Mouse River Oil Co. 6.
34-25-21 Big Six Oil Co. 1.
12-34- Adams, Co-Operative Pet. Co. 3.
33-35- 1 Haskins, Adams Co., trustee, 16.
12-34- 2 Steele, Ethridge Oil Co., Ltd.
32-35- 1 Caine, "56" Pet. Corp. 37.
29-35- 3 McNamer, Mill City Oil, Ltd. 1.
12-32- 2 Kenosha, Northern Nat. Gas Dev. Co. 1.
18-34- 1 Skinner, Oil Prod. Synd. 2.
20-34- 1 Schmidt.
27-35- 2 Lashbaugh, California Pet. Corp. 15
23-32- 2 Nevins, Babcock et al, 1.
26-35- 1 Kaston, Stanley et al.
Shut Down
32-36- 2 Stanton, Call-Mamoth, 1.
7-34- 1 Harte, National Oil & Gas Co. 4.
27-35- 1 Kaston, Munger et al, 1.
12-35- 2 Haugens, Great Northern Royalty Co.
Rigs, 4; wells drilling, 24; total, 38.

MISCELLANEOUS
Rigs
29-35- 5 Brown, Rice-Fulton, 1.
23-35- 6 Whitehead, Rice-Fulton, 1.
1-34- 6 Yunk, Rice-Fulton, 1.
35-23-22 Flathead Pet. Co.
10-34- 3 Grandview, Sunburst Oil & Gas.
8-27- 4 S. C. Ferdig.
24-25- 1 Luckett et al.
Wells Drilling
29-26- 1 Bannatyne Oil Co. 1.
19-27- 3 Continental Dev. Co. 1.
15-25- 1 Ferdig Oil Co.
15-26- 1 Fidelity Oil Co.
19-26- 1 Elliott et al, 3.
19-25- 1 Whitely, Lee Drlg. Co.
34-26- 1 Howell & Field.
17-25- 1 Hardrock Oil Co.
16-27- 4 Fulton Pet. Corp. 1.
1-32- 2 Big Dome Oil Co.
33-35- 4 Swanson, Madeline Oil Co. 1.
13-21- 1 McLean, Lone Star Mont. Oil Co.
32-34-14 Manzel, Jones & Perkins, 1.
31-37- 6 Laird, Bears Den Oil Co. 1
21- 6-35 SE, Selig Oil Co.
12- 5-60 SW, Bull Dog Oil & Gas, 2.
35-27- 1 SE, Pioneer Oil & Gas.
29-35- 1 Reitz, Homestake Explor. Co. 1.
32-34-15 Perkins & Jones.
17- 7- 1 NW, Madison Co. Oil & Gas.
13- 7-59 SE, J. C. Findlater.
23- 2-16 NW, Shoshone Cons. Oil 1.
5-27- 3 Whiteside Syndicate.
35-36- 1 Lewey, Zenith McDonald.
34-33-12 Perkins, Equitable Oil Co.
20- 6-61 SW, Little Beaver Oil & Gas.
10- 6-61 NE, Goodhope O. & G. 1.
8- 7-60 SE, Cedar Creek Oil & Gas.
23-15-25 NW, McDonald Creek Dev. Co.
11- 7-21 N. P. Ohio Oil Co.
6-14-31 NE, Carroll & Parkinson, 1.
34-12-22 McElwain Dev. Co. 2.
26-21-17 Melton Corp., Fenholt.
32- 4-16 SW, Empire State Oil & Gas.
13-17-23 SE, Century Oil Co.
32-28- 2 Midway Oil (Montana Pacific)
5-27- 3 Embar Oil Co.
Shut Down
7-25- 7 Federal, Mid Rocky Dev. Co.
25-14-28 Winnett Pacific 1.
33-16-28 NW, Oakmont Pet. Co.
7-8 -57 Wolf Creek, California Montana.
28- 8-45 Montana Belle Oil Co.
12- 7-21 SW, Atlantic Oil Co.
9-18-26 Gould, Montana Major Oil, Ltd.
4- 2-25 SW, C. B. Minnemin.
25-21- 1 Ainsworth, Neudigate Interests.
27-36- 1 Kevin-Flathead Oil Co.
13- 3-22 NE, Broadview Syndicate.
24- 7-24 NW, Manhattan Oil Co.
9-10-39 Ralph Arnold 5.
21-27- 4 SE, Big West Oil Co.
23-15-26 NW, Sol Stormwind.
Rigs, 7; wells drilling, 56; total, 63.

WYOMING
BIG HORN COUNTY
Wells Drilling
24-56-98 Garland, Producers & Refiners 3.
29-56-97 Utah Southern Oil Co. 3.
Shut Down
29-56-97 Utah Southern Oil Co. 1.
2-56-98 Allen Oil Co. 1.
24-51-93 J. E. Scanlon 1.
Rigs, 0; wells drilling, 6; total 6.

CARBON COUNTY
Rigs
3-19-78 Ohio Oil Co. 6.
Wells Drilling
2-19-78 H. & C., Ohio Oil Co. 12.
2-19-78 H. & C., Ohio Oil Co. 13.
2-19-88 Producers & Refiners 3.
7-26-89 Producers & Refiners 5.
7-26-89 Producers & Refiners 8.
26-26-87 Producers & Refiners 24.
25-26-87 Producers & Refiners 19.
16-28-81 Graybeal Syndicate 1.
Shut Down
14-20-88 Lake View Oil Co. 1.
28-26-86 Portland-Wyoming Oil Co. 2.
33-26-88 Producers & Refiners 2.
8-26-89 H. P. Nutting 1.
Rigs, 1; wells drilling, 12; total, 13.

CONVERSE COUNTY
Rigs
9-33-76 Crary, Texas Production Co. 33.
Wells Drilling
5-31-70 Great Northern Oil Co. 1.
9-33-76 Whiteside, Continental Oil Co. 58.
9-33-76 Whiteside, Continental Oil Co. 54.
28-31-69 John Ackard 1.
Rigs, 1; wells drilling, 4; total, 5.

FREMONT COUNTY
Rigs
15-33-91 E. T. Glenn et al 1.
Wells Drilling
1-33-95 Alkali Butte, Texas Prod. Co. 1.
33-34-92 Producers & Refiners 1.
19- 2-2 Hudson, Producers & Refiners 1.
Shut Down
14-32-95 Producers & Refiners 7.
17-33-94 Winter & Baker 1.
27- 3-1w Nelson et al 1.
27- 3-1w Nelson et al 2.
27-6n-2w Maverick Spgs. Drlg. Co. 1.
30-1s-2e Teton Petroleum Co. 1.
Rigs, 1; wells drilling, 9; total, 10.

GOSHEN COUNTY
Shut Down
24-26-62 Foreman Oil Co. 1.
Rigs, 0; wells drilling, 1; total, 1.

HOT SPRINGS-WASHAKIE COUNTIES
Rigs
26-43-91 Westland Oil Co. 1.
Wells Drilling
36-43-91 State, Utah Oil Refining Co. 2.
Rigs, 1; wells drilling, 1; total, 2.

HOT SPRINGS COUNTY
Wells Drilling
2-24-96 McPherson et al 1.
17-46-98 Washakie, Ohio Oil Co. 1.
Shut Down
34-43-94 Wyoming-Montana Oil Co. 1.
7-46-98 Ohio Oil Co. 2.
18-46-98 Ohio Oil Co. 4.
Rigs, 0; wells drilling, 5; total, 5.

JOHNSON COUNTY
Rigs
20-48-82 Carter Oil Co. 1.
Wells Drilling
17-46-82 R. C. Tarrant et al 2.
10-41-80 Graves & Murphy 1.
7-47-82 Fairway Oil Co. 1.
Shut Down
4-43-82 C. L. Sackett et al.
Rigs, 1; wells drilling, 4; total, 5.

NATRONA COUNTY
Rigs
6-40-79 Mosher et al 1.
Wells Drilling
16-28-80 Foreman Oil Co. 1.
Shut Down
4-29-81 Kinney Coastal Oil Co. 1.
13-33-80 Henry Miller 2.
Rigs, 1; wells drilling, 3; total, 4.

SALT CREEK FIELD
Rigs
5-29-78 Carter Oil Co. 24.
17-39-78 Argo Oil Co. 1.
7-40-78 Mosher et al 3.
30-40-78 Continental Oil Co. 26-A.
12-39-78 Coombs Dev. Co. 36.
Wells Drilling
23-40-79 SW, Midwest Ref. Co. 22-L.
26-40-79 Midwest Ref. Co. 19-L.
30-39-78 Teapot Oil & Land Co. 2.
14-40-79 SE, Midwest Ref. Co. 18.
35-40-79 SW, Midwest Ref. Co. 24-L.
23-40-79 Midwest Ref. Co. 16.
24-40-79 Midwest Ref. Co. 22.
26-40-79 Midwest Ref. Co. 25.
35-40-79 SW, Midwest Ref. Co. 15.
26-40-79 SE, Midwest Ref. Co. 21-L.
Shut Down
30-39-78 Teapot Oil & Land Co. 2.
7-39-78 Continental Oil Co. 21.
16-40-79 Mosher-Dyke Syndicate 35.
23-39-78 Evans Oil Co. 1.
34-40-79 Continental Oil Co. 35-A.
24-40-79 Midwest Ref. Co. 6-L.
Rigs, 5; wells drilling, 16; total, 21.

NIOBRARA COUNTY
Rigs
36-37-63 State, Buck Creek Oil Co. 1.
Wells Drilling
5-35-65 Schuricht, Buck Creek Oil Co. 1.
25-37-63 Delahoyde, Buck Creek Oil Co. 1.
30-36-62 Peterson, Buck Creek Oil Co. 1.
Shut Down
13-35-62 John Malcolm 1.
17-39-60 Hollingsworth Brothers 1.
Rigs, 1; wells drilling, 4; total, 5.

PARK COUNTY
Rigs
3-47-100 Buffalo, Ohio Oil Co. 2.
7-51-100 Klindt, Cody Petroleum Co. 2.
4-50-100 Wilson, Ohio Oil Co. 2.
28-51-100 Wolverine Oil Co. 1.
Wells Drilling
13-51-101 Linco Petroleum Co. 1.
32-52-100 Frisby, Producers & Refiners 1.
33-51-100 Linco Petroleum Co. 1.
8-50-100 Batson, Ohio Oil Co. 1.
22-47-100 Taylor, Union Oil Co. of California 1.
23-51-100 Chapman et al 1.
7-51-100 Ferdig Wyoming Oil Co. 1.
6-51-100 Wydoc Pet. Explo. Co. 1.
19-51-100 Ferdig-Wyoming Oil Co. 1.
28-51-100 Ferdig-Wyoming Oil Co. 1.
7-51-101 Klindt, CodyPetroleum Co. 1.
16-51-100 State, Continental Oil Co. 1.
9-51-100 Rousch, F. G. Ostland 1.
6-57-99 Henderson Production Co. 1.
18-51-100 Shaw, F. G. Ostland 1.
6-51-101 Horse Center, Yodoc Oil Co. 1.
27-53-100 Pulley, Ohio Oil Co. 1.
27-53-100 NW, Ohio Oil Co. 1.
24-48-103 Four Bear, Honolulu Oil Corp. 1.
Shut Down
23-51-101 Rosseau, Linco Petroleum Co. 1.
23-51-102 Half-Moon, Fred G. Ostland 1.
11-49-102 Hungry, Noah F. Clark 1.
36-51-101 Hoodoo Oil Co. 1.
8-51-100 Ohio Oil Co. 1.
25-58-98 V. M. Kirk 1.
Rigs, 4; wells drilling, 25; total, 29.

PLATTE COUNTY
Wells Drilling
13-25-66 E. A. Jacobs estate 1.
Shut Down
11-26-27 Bear Oil Co. 1.
Rigs, 0; wells drilling, 2; total, 2.

SWEETWATER COUNTY
Rigs
6-14-103 Tower Petroleum Co. 1.
Wells Drilling
25-28-93 Zola Oil Co. 1.
18-33-99 Tucker, Prairie Oil & Gas Co. 1.
26-20-104 Baxter Basin, Producers & Ref. 1.
11-26-90 Prairie Oil & Gas Co. 67-A.
14-26-90 Prairie Oil & Gas Co. 7-B.
2-26-90 Hughes, Utah Oil Ref. Co. 7-A.
Shut Down
11-26-90 Wyo.-Ill., Producers & Refiners 9.
11-26-90 Prairie Oil & Gas Co. 67-A.
11-26-90 Wyo.-Ill., Producers & Refiners 5.
10-26-90 Prairie Oil & Gas Co. 61-A.
Rigs, 1; wells drilling, 9; total, 10.

SUBLET COUNTY
34-27-113 California Pet. Corp. 6-J.
8-27-113 Midvale Oil Corp. 1.
16-27-113 Goldberg et al 1.
Wells Drilling
21-27-113 Midwest Refining Co. 36.
15-26-113 Davis, Texas Production Co. 1.
34-27-113 California Petroleum Corp. 6-C.
11-29-115 SE, California Co. 1.
34-27-113 California Petroleum Corp. 4-A.
34-27-113 California Petroleum Corp. 4-G.
34-27-113 California Petroleum Corp. 5-F.
27-27-113 California Petroleum Corp. 3.
27-27-113 California Petroleum Corp. 5-D.
27-27-113 California Petroleum Corp. 5-B.
3-28-113 California Petroleum Corp. 2-L.
34-27-113 California Petroleum Corp. 7-D.
34-27-113 California Petroleum Corp. 5-J.
35-27-113 Associated Producers Synd. 1.
3-26-113 California Petroleum Corp. 3-D.
10-26-113 Bird, Utah Oil Ref. Co. 1.
15-26-113 Rainbow Oil Co. 2.
9-28-113 Beaver Petroleum Co. 1.
27-26-113 McGinnis, Geo. W. Danley et al 1.
Shut Down
15-27-113 Denver-La Barge O. & G. Co. 1.
34-27-113 California Petroleum Corp. 7-G.
18-27-113 Good & Nutting 1.
26-27-113 Britt et al 1.
22-27-113 Akin-Butte Oil Co. 1.
33-27-113 Shidler Synd. 1-B.
3-26-113 California Petroleum Corp. 4.
15-27-113 H. H. Goddard 1.
1-28-113 Lackey et al 1.
7-28-111 Elkhorn-Western Slope Oil 1.
Rigs, 3; wells drilling, 31; total, 34.

UINTA COUNTY
Wells Drilling
6-14-118 Olsen & Zimmerman 1.
Shut Down
10-14-118 A. R. Johnson 1.
Rigs, 0; wells drilling, 2; total, 2.

WASHAKIE COUNTY
Wells Drilling
13-46-89 Producers & Refiners 1.
Shut Down
31-48-90 Ohio Oil Co. 3.
31-48-90 Ohio Oil Co. 1.
Rigs, 0; wells drilling, 3; total, 3.

WESTON COUNTY
Rigs
5-46-63 Wyoming-Tana Oil Co. 4.
Wells Drilling
30-46-63 Glenn Oil Co. 12.
28-47-65 Gose Oil Syndicate 1.
18-46-63 Hawkeye Supply Co. 3.
17-46-63 Euclid Oil Co. 11.
13-46-64 Hugh Updyke 7.
31-47-63 Euclid Oil Co. 12.
17-46-63 La Fleiche Oil Co. 10.
8-46-63 Reserve Oil Co. 5.
13-46-63 Wesco Oil Co. 2.
Shut Down
7-46-63 John O'Brien 1.
Rigs, 1; wells drilling, 10; total, 11.

COLORADO
Rigs
14-4n-92 Milliken, L. L. Keith.
10-2n-97 Lucas, Sheffer & Bezona 1.
31-10-68 Buckeye, Union Oil Co. of Calif. 7.
7- 9-68 Gault-Piatt, Union Oil Co. of Calif. 4
23- 4-92 Midwest Refining Co. 8-SD.
22- 4-92 Parkinson,, Texas Prod. Co. 13.
6- 9-68 Scott, Union Oil Co. of Calif. 3
9-25-96 Piceane, Argo Oil Co.
Wells Drilling
34- 3-70 Prechtl, Left Hand Oil Co. 1.
32-1n-70 Nichols, Republic Oil Co. 1.
7- 6-86 Adair, Texas Production Co. 4.
16- 4-69 State, Five Square Oil & Gas, 1.
30-41-16 Moody Oil Corp. 1.
26- 4-92 Yarg, Shaffer Oil & Ref. Co. 205.
9- 6-82 Goettler, North Park Oil Co. 1.
17- 6-86 State, Great Western Oil Co. 1.
4-20-69 Templeton Oil & Gas Co. 2.
6- 6-86 Hule, Texas Production Co. 1.
3-19-70 Alger, W. F., McCormick, 1.
30-10-68 Foster, Union Oil Co. of Calif. 2.
9-34-92 Sandoval, Mountain States Gasoline Corp. 4.
5- 6-86 McNeill, Texas Production Co. 2.
23- 4-92 Parkinson, Texas Production Co. 6.
5-21-69 Slevin, Morrison Oil Co. 1.
35-18-70 Hunter Palmer, Overholtz Oil Co. 1.
10-34-11 Aspaas, Jas. F. Collins Oil Corp. 1.
5- 1-70 Martin, Essok Oil Co. 1.
8-35 12 Olbert, Detroit Oil Ass'n. 1.
34- 9-78 Hoye, Continental Oil Co. 1.
1- 9-79 Peterson, Continental Oil Co. 1.
2- 9-79 Pollock, Continental Oil Co. 1.
33-18-60 Ritter, Boone Oil & Gas Co. 1.
12-34-71 Ferguson, Kiem Syndicate 1.
31-10-68 Buckeye, Union Oil Co. of Calif. 6.
32-34-66 Adams, Perker Club, Inc. 1.
11-30-60 Gov't, Foley and Goldsworthy 1.
31- 7-81 Hitchins, Morrison & Johnson 1.
36- 8-55 State, Northeastern Colo. Oil Co. 1.
19-17-67 John Junior, Grand Union Oil Co. 2.
10- 4-91 Wick, Texas Production Co. 5.
30-19-70 Robbins, Continental Oil Co. 1
16-12-100 State, Reiter-Foster Oil Co. 1.
2-19-70 M.Steinmier, Continental Oil Co. 2
22- 4-92 Parkinson, Midwest Refining Co. 34-SD.
27- 4-92 Shaw, Midwest Refining Co., 4-SD.
23- 4-92 Parkinson, Texas Prod., Co. 17.
33- 5-91 Basil Knowlton, Texas Production Co. 10.
22-12-100 Kuykendall, Ohio Oil Co. 1.
31- 2-102 Emerald, Texas Production Co. 2
27- 3-94 Freeman, Texas Production Co. 1.
27-41-10 State, Cook Weber, et al 1.
5- 8-56 Platte Valley Petroleum Co. 1.
31-11-79 Hunter, Crude Oil Detector Co. 1.
28-20-69 Travis, Travis Oil Co. 12.
20-33-61 McClung, California Pacific Gasoline Co. 1.
9-35-13 Hall, Coon-Cotton Syndicate, 1.
14- 1-66 Smith, Retter Oil Co. 1.
4-45-16 Gilmore, Indian Petroleum Co. 1.
12-23-59 Liggett, C. Frost Liggett. 1.
10-29-69 Oak View, Huerfano Oil Co. 2.
28- 3-64 Watkins, Eman Oil Corp. 4.
7- 4-66 Fitzsimmons, McDeb Drlg. Co. 1.
5- 8-69 Besaw, West Side Dev. Co. 1.
33- 8-69 Warren, Poudre River Oil Co. 1.
24- 2-103 Amazon, Tidewater Associated Oil Co. 1.
24- 6-61 Patterson, Platte Valley Petroleum Co.
34-17-70 Mutual Oil & Dev. Co. 1.
Shut Down
26-34-48 Jones, Phillips-Middleton Synd. 1.
16 -3-91 Wymore, Marland Oil Co. 8-A.
23-33-12 Pulliam, Colorado Eastern-Erdman, 1.
23- 8-104 Peerless, B. C. Morrison, 1.
32-33-12 Hutchinson, Miley Exp. Co. 1.
29-26-57 Bell Ranch, Reiter-Foster Oil Co. 1.
28-18-70 Sheridan, Columbia Oil Co. 1.
34-32-56 Colorado Southern Oil Co. 1.
34-18-70 Renfrew, River Oil Co. 1.
24-1s-1e Holly Sugar, Eureka Oil Co. 1.
18- 6-86 State, Texas Production Co. 1.
1- 2-68 Orrison, Municipal Oil, Inc. 1.
11- 4-58 Jolly—U. P., H. H. Temple, et al 1
4- 6-59 Maher, Belmont Oil Co. 1.
26- 7-92 Boyles Oil Co. 1.
4-7-86 Elkhead Dev. Co. 1.
28- 1-70 Odlum, Offset Oil Synd. 1.
6- 7-68 Brown, Fifty-Four Oil Co. 1.
19-17-67 John Junior, Red Creek Oil Co. 1
30- 2-70 Spurgeon, Boulder Petroleum Co, Inc. 1.
16-23-52 State, Bent County Oil & Gas 1.
16-10-69 Buckeye, Rollestone Oil Co. 1.
Rigs, 8; Wells drilling, 81; total, 89.

NEW MEXICO
CHAVES COUNTY
Wells Drilling
7- 5-29e Neis, McQuigg & McQuipp. 1.
25-11-27 State, Buffalo-Roswell O. & G. 1.
24-11-25 Miller, Lane, Est., et al, 1.
Shut Down
18-13-31 Wilkinson, Arena Oil Co. 1.
8-11-23 Forsyth, Gibson Oil Corp. 1.
Rigs, 0; wells drilling, 5; total, 5.

COLFAX COUNTY
Wells Drilling
6-24-25 Logan, Frontier Oil Co. 1.
Shut Down
Rigs, 0; wells drilling, 1; total, 1.

CURRY COUNTY
Wells Drilling
21- 3-26 Hoskins, Clovis Oil & Gas Co. 1.
35- 6-33 Scheurich, Petroleum Dev. Co. 1.
Shut Down
22- 8-36 Laird, Bellview Oil & Gas Co. 1.
11- 5-35 Sanders, Frio Oil Co. 1.
Rigs, 0; wells drilling, 4; total, 4.

DE BACA COUNTY
Shut Down
16- 1-27 McAdoo, Navajo Oil Co. 1.
27- 4-22 Triggs Syndicate, 1.
6- 4-20 Woods, Barber-Woods Oil Co. 1.
Rigs, 0; wells drilling, 3; total, 3.

EDDY COUNTY
Rigs
33-18-28 Henderson, Dexter & Blair.
12-18-27 Cronin, Picher Oil & Gas Co. 4.
Wells Drilling
13- 6-25 Miller, Hammond Oil Co. 1.
3-17-27 Daugherty, Ross & Grimm, 1.
35-17-27 Russell, Empire Gas & Fuel, 4-A
33-17-28 Yates, Pueblo Oil Co. 2.
32-18-28 State, Flynn, Welch & Yates, 35.
3-18-28 State, Levers & Carper, 5.
23-30-29 Hinkle, Geo. F. Getty, Inc. 1.
4-18-27 Mann, R. D. Compton, 4.
25-16-31 Robinson, Texas Production Co. 2
1-17-31 Gessert, Pueblo Oil Co. 1.
13-19-26 Billings, Hamilton Pet. Co. 1.
Shut Down
2-18-27 State, R. D. Compton, 3.
Rigs, 2; wells drilling, 12; total, 14.

GUADALUPE COUNTY
Wells Drilling
10- 3-17 Goard, Navajo Oil Co. 1.
24- 8-24 Rutherford, Hanchett Oil Co. 1.
Shut Down
24- 5-16 McMullen, Union Pet. Co. 1.
Rigs, 0; wells drilling, 3; total, 3.

HIDALGO, SAN MIGUEL, LUNA, AND SIERRA COUNTIES
Wells Drilling
32-14- 2 State, Park Bowers, 2.
20-21-10 State, Park Oil & Mining Co. 2
Shut Down
14-22-20 Beulah Oil & Gas Co. 1.
14-15-16 Henry Dickerson.
Rigs, 0; wells drilling, 4; total, 4.

LEA COUNTY
Wells Drilling
9-19-38 State, Midwest Refining Co. 1.
4-17-34 State, Ingiefield & Bridges, 1.
27-19-38 Hughes, Cecil Bordages, 1.
15-27-32 Beardsley, Maljamar Oil & Gas Co. 1.
5-22-38 Lockhart, Texas Production Co. 1
Shut Down
20-11-38 Levers & Wilson, et al, 1.
27-11-34 Ward, Invader O. & R. Co. 1.
25-19-35 Record, Exploration Co. 1.
22-18-34 State, McDonald-Neal, 1.
34-17-33 Wyatt, Henderson, Dexter & Blair, 1.
Rigs, 0; wells drilling, 10; total, 10.

M'KINLEY COUNTY
Wells Drilling
1-16- 9 Hannett, Jenkins Oil Co. 1.
12-16-10 Hogback Oil Co. 1.
19-17- 9 Santa Fe, Benedum & Trees, 1.
30-18- 8 Pettit, H. L. Williams, 2.
15-17- 9 Valentine, Reliance Oil Co. 1.
12-17- 9 Producers & Refiners, 2.
15-16-10 Paramount Petroleum Co. 1.
21-14- 9 S. Dysart, et al, 1.
9-17- 7 Gracia, Continental Oil Co. 1.

Shut Down

22-18-10 Gov't. Inland Oil Co. 1.
20-14- 9 Union, New Mexico Oil Royalties, 2
17-18-10 Cook & Beasley, 1.
Rigs, 0; wells drilling, 12; total, 12.

QUAY COUNTY
Wells Drilling

24- 7-29 Wells, Ohio Oil Co. 1.
Shut Down
25- 8-32 Gibson Oil Corp. 1.
Rigs, 0; wells drilling, 2; total, 2 .

RIO ARRIBA, SANDOVAL AND SIERRA COUNTIES
Rigs

18-16- 1 Albuquerque Oil & Gas Co. 1.
Wells Drilling
32-14- 2 State, Park-Bowers, et al. 2.
5-31- 2 Azotea Oil Co. 2.
8-29- 7 Hartman, Blanco O. & G. Co. 1.
Rigs, 1; wells drilling, 3; total, 4.

SAN JUAN COUNTY
Rigs

28-29-11 Viles, Co-Ne-Mo Oil Co. 1.
14-29-11 Hare, Miller Brothers. 1.
19-29-10 Aztec Dev. Co. 1.
Wells Drilling
34-29-11 Garland, Senate Oil Co. 1.
9-30-11 Lawson, Poole & Peebles, 1.
15-29-11 Finch, Aztec Dev. Co. 1.
9-29-11 Lanier, T. C. N. Oil Co. 2.
17-29-13 Palmer, San Juan Pet. Corp. 1.
24-29-11 Martin, Picture Cliff Oil Co. 1.
16-29-13 Markley, J. W. Miller, 1.
8-29-19 Munoz, Continental Oil Co. 17.
29-30- 9 Terwilliger, Huntington Park Oil Co. 1.
8-29- 9 Pine, Union Oil & Mining Co. 2.
30-30-15 Bowman, San Juan Leaseholds, 3.
Shut Downs
24-13-11 Atterbury, Kansas-Colorado Oil Co. 1.
28-31-13 Hubbel, Portage Oil Co. 1.
24-30- 9 Emery, Mansfield, et al. 1.
34-29-11 Garland, Messick & Howard, 1.
23-29-11 James, R. M. Smith, 1.
23-29-11 James, R. M. Smith, 1.
11-29-11 Abrams, R. M. Smith 1.
11-29-11 Viles, Aztec Oil Co. 1.
Rigs, 3; wells drilling, 17; total, 20.

SOCORRO COUNTY
Wells Drilling
13- 6- 1 Arnold, et al. 1.
Shut Down
30- 5- 1 Perrin-Swisher, New Mexico Dev. Co. 1.
14- 3- 6 Stackhouse, Abo Oil Co. 1.
Rigs, 0; wells drilling, 3; total, 3.

TORRANCE COUNTY
Wells Drilling
7- 4-10 Bluhall Oil Co. 1.
31- 3-15 Renehan, Duran Dome Oil Co. 1.
12- 7- 7 De Hart, Sinnoco Oil Co. 1.
Shut Down
28- 3-13 Pinos, Alston, et al. 2.
32- 7-10 Minerman, San Juan Coal & Oil Co. 1.
12- 6- 7 Pace, F. S. Wilson, trus. 1.
7- 6- 8 Weber, Jones & Newbury, 1.
26- 6-10 Jones, San Juan Coal & Oil Co. 2.
26- 5- 6 Menzano, Navajo Oil Co. 1.
Rigs, 0; wells drilling, 8; total, 9.

UNION COUNTY
Rigs
4-22-32 Claphan, Amarillo Union Oil Co. 1.
Wells Drilling
27-21-33 Cook, Jas. R. Thomas, 1.
Shut Down
14-24-30 Pasamonte, Sun State Petroleum Co. 1.
Rigs, 1; wells drilling, 2; total, 3.

VALENCIA COUNTY
Wells Drilling
26- 6- 3 New Mexico-Arizona Land, Acme Dev. Co. 1.
13- 6- 2 Ball, Rio Puerto Oil Co. 1.
27- 7- 4 Santa Fe Ry., Acme Dev. Co. 1.
Shut Down
13- 7- 3 Sidello Grant, N. A. Baker, 1.
25- 7- 2 Stone Oil & Drilling Co. 2.
30- 6- 2 Grant, Gilmore-Sheldon.
Rigs, 0; wells drilling, 6; total, 6.

UTAH
Rigs
36-26-20 J. L. Shafer, Utah-Southern Oil 1.
16-27-16 Phillips Petroleum Co. 1.
Wells Drilling
17-43-15 Mid-American Oil Co. 1.
17-34-25 Boulder Knoll Oil & Gas Co. 1.
6-27-21 Frank Shafer, Utah-Southern Oil Co. 1.
23- 5-22 Ashley Creek, Midwest Refining Co. 3.
Boundary Butte, Continental Oil Co. 1.
13-4s-6w Early Midwest Exploration Co. 1.
34-25-21 Big Six, Embar Oil Co. 1.
28-41-19 Canyon, Utah-Southern Oil Co. 1.
5-27-14 Shipley, Texas Production Co. 1.
27-21-19 Western States Dev. Co. 1.
W. of Vernal, Maud Ellen Oil Co. 1.
3- 9- 4 Diamond Oil Co. 1.
16-14-10 Price River Petroleum Co. 1.
14- 9- 8 Leonora-Raddatz Syndicate, 1.
33d St. Salt Lake City, Tower Petroleum Co. 1.
18-43-15 Uzona Oil Co. 1.
23-41-12 Virgin Petroleum Co.
Shut Down
36-31-17 Frances, Francis Oil-Utah Petroleum, 1.
1-30-20 Geoghegan, Utah Pet. Corp. 1.
16-26-20 Utah-Southern Oil Co. 1.
3-39-20 Rose, Deseret Pet. Co. 1.
4-22-19 Crescent Eagle Oil Co. 1.
34-26-21 Utah Oil Dev. Co. 1.
31- 2- 7 Lakeside Oil Co. 1.
Rigs, 2; wells drilling, 24; total, 26.

NORTH AND WEST TEXAS

NORTH CENTRAL AND WEST TEXAS

Summary of Wells Completed

West Texas—	Comp.	Prod.	Dry	Gas
Crane County	14	7,800	0	0
Crockett County	6	1,484	3	0
Fisher County	2	0	2	0
Glasscock County	2	0	2	0
Howard County	12	2,017	3	1
Jones County	2	0	2	0
Loving County	1	125	0	0
Mitchell County	1	0	1	0
Pecos County	33	203,159	9	0
Reagan County	1	45	0	0
Upton	9	2,328	4	0
Winkler	10	14,144	3	1
Total Nov.	93	231,102	29	2

North Central Texas—				
Archer County	31	225	22	0
Baylor County	2	0	2	0
Brown County	68	8,054	25	2
Callahan County	22	417	14	1
Coleman	7	0	6	1
Cooke County	13	235	6	0
Eastland County	27	2,411	11	5
Foard County	1	0	1	0
Grayson	3	0	2	1
Haskell	2	0	2	0
Jack County	27	450	12	0
Knox County	2	0	2	0
Montague County	16	453	5	1
McCulloch County	3	0	2	1
Palo Pinto County	6	13	5	0
Shackelford County	7	20	5	0
Stephens County	7	67	3	1
Throckmorton County	5	15	4	0
Wichita County	24	376	14	0
Wilbarger County	8	596	3	0
Wise County	1	0	1	0
Young County	26	4,500	11	0
Total Nov.	308	17,832	158	13
Gr. total N. C. and W. Texas, Nov.	491	248,934	187	15
Gr. total N. C. and W. Texas, Oct.	263	70,560	110	9
Difference	138	178,374	77	6

Rigs and Wells Drilling

West Texas—	Rigs	Drg.	S.D.	Ttl.
Crane County	8	26	4	38
Crockett County	2	8	9	19
Howard County	7	24	4	35
Jones County	3	4	5	12
Mitchell County	1	1	1	3
Pecos County	48	43	8	99
Reagan County	0	6	12	18
Runnels County	6	5	1	12
Upton County	7	6	3	16
Winkler County	20	55	16	91
Miscellaneous Counties	12	33	34	79
Total Nov.	115	211	96	422
North Central Texas—				
Archer County	14	17	3	34
Brown County	9	34	13	56
Callahan County	3	9	7	19
Coleman County	9	16	14	35
Cooke County	3	11	4	18
Eastland County	13	19	10	42
Jack County	4	15	6	25
Montague County	3	9	2	14
Shackelford County	0	7	5	12
Stephens County	3	11	7	21
Throckmorton County	0	2	1	3
Wichita County	13	22	3	38
Wilbarger County	11	27	3	41
Young County	16	33	6	55
Miscellaneous Counties	6	22	32	60
Total N. C. Texas, Nov.	107	254	116	477
Gr. total N. C. and W. Texas, Nov.	222	465	212	899
Gr. total N. C. and W. Texas, Oct.	218	404	228	850
Difference	4	61	16	49

CRANE COUNTY

State Land, Landreth Prod. Corp. 16 .. 80
J. T. McElroy, Gulf Prod. Co. 40 1200
University, Pecos Oil Co. 10 125
University, Magnolia Pet. Co. and Hardwick 10 1200
J. T. McElroy, Gulf Prod. Co. 42 75
University, Simms & Atlantic 8 550
University-D, Simms & Atlantic 9 750
University, Humble Oil & Refining Co. 12 1800
University, Pecos Oil Co. 8 375
University-I, Tidal Oil Co. 8 30
W. N. Waddell, Gulf Production Co. 2 30
O'Keefe-University, Magnolia Pet. 11 .. 600
University, Magnolia Pet. Co. and Hardwick 11 340
J. T. McElroy, Gulf Prod. Co. 43 636

Completions 14
Production 7800

CROCKETT COUNTY

Noelke-Murphy, George Henshaw 1 .... dry
L. P. Powell-D, Gulf Prod. Co. 2 327
J. S. Pierce, Marland Oil Co. and H. Wallace 1 ..... dry
G. L. Thompson et al, Gulf Prod. Co. 2 1122
L. P. Powell, Cushing Ref. & Gas Co. 3 35
Noelke, Epereaur et al 1 ..... dry

Completions 6
Production 1484
Dry holes 3

FISHER COUNTY

Langford, Hucony Gas Co. 1 ..... dry
W. W. Ammons, Miley Oil Co. and Marland Oil Co. 1 ..... dry

Completions 2
Dry holes 2

GLASSCOCK COUNTY

F. G. Oxsheer, Green et al 1 ..... dry
L. S. McDowell, World Oil Co. and J. S. Meriwether 1 ..... dry

Completions 2
Dry holes 2

HOWARD COUNTY

Kelly Chalk, Magnolia Petroleum Co. 2 121
Kelly Chalk, Magnolia Petroleum Co. 7 69
A. H. Haines, Marland Oil Co. 1 ..... dry
Chalk, Sweeney et al 1 150
Guitar Trust Estate-A, Marland Oil Co. 1 ..... dry
Roberts-B, F. H. E. Oil Co. et al 1 .. gas
Kelly-Chalk, Magnolia Pet. Co. 8 65
Martin, Donellee et al 1 ..... dry
Dora Roberts, Harrison et al 3 31
Sarah Hyman, Magnolia Pet. Co. 3 45
John Roberts, Magnolia Pet. Co. 1 1368
W. R. Settles-A, Texon-Marland 1 168

Completions 12
Production 2017
Gas wells 1
Gas production 3,000,000
Dry holes 3

JONES COUNTY

Joe Dillard, Gibson & Johnson 1 ..... dry
J. S. Swann, Marston Oil Co. 1 ..... dry

Completions 2
Dry holes 2

LOVING COUNTY

R. L. Allen, Lockhart & Co. 1 125

MITCHELL COUNTY

J. E. Dollen, B. E. Walter et al 1 .... dry

PECOS COUNTY

I. G. Yates, McMan Oil & Gas Co. and Marland Oil Co. 2 13980
I. G. Yates, McMan Oil & Gas Co. and Marland Oil Co. 5 3936
M. A. Smith, Humble Oil & Ref. Co. 1 1584
I. G. Yates, McMan Oil & Gas Co. and Marland Oil Co. 6 5160
Smith-Taylor, Mid-Kansas Oil & Gas 2 2640
McKenzie, Red Bank Oil Co. 1 ..... dry
M. A. Smith-A, Roxana Pet. Corp. 1 .. 418
I. G. Yates, The California Co. 3 14400
A. J. Delvin, Simms Oil Co. 2 ..... dry
Jasper County School Land, Buell & Hagen 1 ..... dry
Holmes, Bob Elmore 1 ..... dry
M. A. Smith, Mazda Oil & Gas Corp. & Savoy Oil Co. 1 600
I. G. Yates, The California Co. 4 3192
I. G. Yates, The California Co. 5 18432
M. A. Smith, The California Co. 2 24
Pecos River Bed, Allsman & Bell 3 ... 3906
I. G. Yates-A, Marland Oil Co. 2 8482
I. G. Yates-B, Mid-Kansas Oil & Gas Co. 4 4128
M. A. Smith, Simms Oil Co. 2 24696
J. C. Trees, Benedum & Trees 1 .... dry
W. W. Batchler, Buell et al 1 ..... dry
W. A. Smith, Humble Oil & Ref. Co. 2 2640
I. G. Yates-B, Marland Oil Co. 3 720
I. G. Yates-A, Marland Oil Co. 4 3528
I. G. Yates-B, Mid-Kansas O. & G. Co. 5 1035
I. G. Yates-B, Mid-Kansas O. & G. Co. 6 2582
I. G. Yates-D, Mid-Kansas O. & G. Co. 1 4600
M. A. Smith, The California Co. 3 2472
McKenzie, George Anderson et al 1 .. dry
I. G. Yates, McMan O. & G. Co. and Marland Oil Co. 7 15024
M. A. Smith, Mid-Kansas O. & G. Co. 1 dry
I. G. Yates-C, Mid-Kansas O. & G. Co. 2 65880
I. G. Yates, W. R. Shankel et al 1 .. dry

Completions 33
Production 203159
Dry holes 9

REAGAN COUNTY

University, Big Lake Oil Co. 134 .. 45

UPTON COUNTY

A. S. Burleson, T. P. Coal & Oil Co. 1 25
W. I. Gormley, J. M. Hickey 1 ..... dry
R. Ricker, Humble O. & R. Co. 7 225
A. S. Burleson, Marland Oil Co. 34 .. dry
B. H. Estep, Marland Oil Co. 11 .... dry
J. F. Lane, Champlin O. & R. Co. 1 .. 880
K. C. M. & O. R. R. Right of Way, R. H. Paxton 1 518
J. F. Lane, Champlin O. & R. Co. 2 .. 680
Union Land Co., Eastland Oil Co. and Brandon & McCamey 1 ..... dry

Completions 9
Production 2328
Dry holes 4

WINKLER COUNTY

T. G. Hendrick, Group 1, Humble Oil & Ref. Co. 1 ..... dry
Ida Hendrick, Cranfill & Reynolds 1.. 9143
Grisham-Hunter-B, Republic Prod. Co. 1 .....junked
W. F. Scarborough, Roxana Petroleum Corp. et al 1 40
Grisham-Hunter-A, Texon Oil & Land Co. 1 516
T. G. Hendrick, Gulf Prod. Co. 4 4000
Grisham-Hunter-C, Murchison Oil Co. et al 1 365
Grisham-Hunter, Humble O. & R. Co. 2 gas
Grisham-Hunter, Murchison Oil Co. et al 3 80
J. W. Amburgey, Tidal Oil Co. et al 1 dry

Completions 10
Production 14144
Gas wells 1
Gas production 75,000,000
Dry holes 2

CRANE COUNTY
Rigs

State Bank Commission, J. K. Hughes et al 1.
University, Magnolia Pet. Co. & Hardwick 3, 16.
University, Pecos Oil Co. 15, 16.
W. N. Waddell, Gulf Production Co. 3.
J. T. McElroy, Gulf Production Co. 45, 46.
Wells Drilling
Cowden Bros. & Co., Duffey & Gault Brown 1.
University, Humble Oil & Ref. Co. 13.
J. T. McElroy, Gulf Production Co. 44.
University-A, Independent Oil & Gas Co. 3, 4, 5.
University, Magnolia Pet. Co. & Hardwick 12, 13, 14, 15.
University, Pecos Oil Co. 9, 13, 14.
State-Lasseter, Prairie Oil & Gas Co. 5, 6, 7, 8.
University-D, Simms & Atlantic 8, 10, 11, 12.
University-I, Tidal Oil Co. 4, 6, 7.
University-G, Tidal Oil Co. 3.
Jax Cowden, Texas Development Co. 1.
Shut Down
J. R. Mosley, Crane Development Co. 1.
O'Keefe-University, Magnolia Pet. Co. 12.
State-Lasseter, Magnolia Petroleum Co. 3.
Union Land Co., Marland Oil Co. 1.
Rigs, 8; wells drilling, 26; wells shut down, 4; total, 38.

CROCKETT COUNTY
Rigs

George Thompson, Van McPhail et al 1.
George Thompson, Van McPhail 1.
G. L. Thompson et al, Gulf Prod. Co. 3.
Wells Drilling
University, Corbett & Gill 1.
L. P. Powell, C. A. Jones et al 1.
Todd, Jas. Kelly et al 1.
B. C. Clark, Newman Oil Co. 1.
H. M. Halff, Osage Oil Corp. et al 1.
L. P. Powell, Bob Penn 1.
H. M. Halff, Simmon Oil Co. et al 1.
Schneman-B, World Oil Co. 1.
Shut Down
University, George Anderson & Marland Oil Co. 1.
Paul Perner, J. S. Cosden, Inc. 1.
University, W. M. Schaffer et al 1, 2.
R. Massie, Young & Donnelly 1.
J. M. Shannon, Young & Donnelly 1.
P. C. Coates, V. T. Bolin & Co. 1.
Blakeney, McManmon Oil Co. 1.
Rigs, 3; wells drilling, 8; wells shut down 8; total, 19.

HOWARD COUNTY
Rigs

Roberts-C, F. H. E. Oil Co. 1.
W. J. Flowers, Maya, Nixon & Flowers 1.
C. D. Read, J. E. Miley & Marland 1.
Dora Roberts, Sprague Oil Co. 1.
Otis Chalk, Sweeney et al 2, 3, 4.
Wells Drilling
A. J. Hooks, Bristow & Merrick 4.
Dora Roberts, Coyle-Concord Oil Co. 1, 2.
H. R. Clay, Dixie Oil Co. 1.
Roberts-A, F. H. E. Oil Co. 2.
Roberts-D, F. H. E. Oil Co. 1.
A. J. Hooks, Godley Oil Co. 2.
Harry Hyman, Lee & Neely 1.
G. C. Chalk, Magnolia Petroleum Co. 8.
Kelly Chalk, Magnolia Petroleum Co. 9.
Mary Chalk, Magnolia Petroleum Co. 8.
Otis Chalk-E, Marland Oil Co. 2.
H. R. Clay-A, Marland Oil Co. 6, 7.
H. R. Clay-E, Marland Oil Co. 1.
A. Richardson, Marland Oil Co. 1.
Dora Roberts, Owens & Sloan 1.
C. D. Read, Peer Oil Corp. 1.
Dora Roberts, Schermerhorn O. & G. Co. 1
Otis Chalk, Sweeney et al 5.
Mrs. Conaly, Texon-Marland 1.
W. R. Settles, Texon-Marland 2.
Fisher Bros., The California Co. 1.
Dora Roberts, Ward Oil Co. 1.
Shut Down
Jones, Bowers et al 1.
W. R. Settles, Henshaw et al 1.
Fisher, Marland Oil Co. 1.
H. R. Clay, Vitek Oil Co. 1.
Rigs, 7; wells drilling, 24; wells shut down, 4; total, 35.

JONES COUNTY
Rigs

Joe Winters, Phillips Pet. Co. 3.
H. B. Vestal, Phillips Pet. Co. 2.
Higgs, Setbbins Oil Co. 2.
Wells Drilling
R. J. Camp, Gibson & Johnson 1.
J. C. Mason, Phillips Pet. Co. 2.
Scott, Stebbins Oil and Sinclair O. & G. 1.
Caton, Swensondale Oil Co. 1.
Shut Down
L. H. Herndon, Campbell et al 1.
Ed Glynn, Garland & Diamond 1.
Smith, Hutson & Weaver 1-A.
W. C. Bennett, Stough et al 1.
J. P. Willis, Stough et al 1.
Rigs, 3; wells drilling, 4; shut down, 5, total, 12.

MITCHELL COUNTY
Rigs

A. C. Mills, Paul Teas et al 1.
Well Drilling
C. M. Adams, Lease 2, California Co. 7.
Shut Down
C. Way, Robert Thraves 1.
Rigs, 1; wells drilling, 1; shut down, 1, total, 3.

PECOS COUNTY
Rigs

Pecos River Bed, Allsman & Bell 5, 11.
Sherbino Bros., Geo. Anderson 1.
Blackstone & Slaughter, Diamond Pet. 1.
R. R. Russell, Gibson Oil Corp. 1.
M. A. Smith et al, Gulf Prod. 3, 4, 5.
B. T. Corder, Geo. Henshaw et al 1.
M. A. Smith, Humble O. & R. Co. 4.
M. A. Smith-B, Humble O. & R. 1.
Cannon, Kershaw & Livingston 1.
I. G. Yates, McMan O. & G. and Marland Oil Co. 12.
M. A. Smith, Mazda O. & R. Corp. and Savoy Oil Co. 2.
I. G. Yates-A, Mid-Kansas O. & G. Co. 10, 11, 12, 13, 14.
I. G. Yates-B, Mid-Kansas O. & G. Co. 10, 11, 12, 13, 14, 16, 17.
I. G. Yates-C, Mid-Kansas O. & G. Co. 4, 6, 7, 8, 9, 10.
I. G. Yates-D, Mid-Kansas O. & G. Co. 2.
B. T. Corder, Moody Oil Corp. 1.
Arthur Harral, Olean Pet. Co. 1.
Sherbino Bros., Olean Pet. Co. 1.
Arthur Harral, Red Bank Oil Co. 1.
J. H. Tippett, Roxana Pet. Corp. 4.
M. A. Smith, California Co. 4, 5, 6, 7.
I. G. Yates, California Co. 2.
M. Serf, World Oil Co. 1.
Pryor & Wilson, Mid-Kansas O. & G. 1.
Joe Parker, Robert Lee 1.
Geo. Brown, B. J. Spikes 1.
A. Kloh, World Oil Co. 1.
Wells Drilling
Pecos River Bed, Allsman & Bell 4.
Blackstone & Slaughter, Cummings et al 1.
El Paso Cattle Loan Co., Garland & Mott 1.
M. A. Smith et al, Gulf Prod. Co. 2.
I. G. Yates, Gulf Prod. Co. 1, 2, 3.
M. A. Smith, Humble O. & R. 3.
M. A. Smith-B, Humble O. & R. 2.
J. H. Tippett, Kirby Pet. Co. and Edson 1.
I. G. Yates-A, Marland Oil 5, 6, 7, 8.
I. G. Yates, McMan O. & G. and Marland Oil Co. 4, 8, 9, 10, 11.
Smith-Taylor, Mid-Kansas O. & G. Co. 3, 4, 5, 6.
I. G. Yates-A, Mid-Kansas O. & G. Co. 8, 9.
I. G. Yates-B, Mid-Kansas O. & G. Co. 7, 8, 9, 15.
I. G. Yates-C, Mid-Kansas O. & G. Co. 3, 5.
I. G. Yates-E, Mid-Kansas O. & G. Co. 1.
Smith, Red Bank Oil Co. 2.
M. A. Smith, Roxana Pet. Corp. 2.
J. H. Tippett, Roxana Pet. Corp. 2, 3.
M. A. Smith, Simms Oil Co. 3, 4.
I. G. Yates, California Co. 6, 7, 8.
Blackstone & Slaughter, Transcontinental Oil Co. 1.
Schimmel, Geo. A. Henshaw 1.
Shut Down
I. G. Yates, Day Bros. & McKnight 1.
J. T. Sellman, Douglas Oil Co. 1.
G. A. Harral, Olean Pet. Co. 1.
Bonebrake, M. C. Dibble et al 1.
W. W. Turney, Kirby Pet. Co. 1.
Bennett, Quinby et al 1.
A. A. Gray, Quinby et al 1.
Townsite, Quinby et al 1.
Rigs, 48; wells drilling, 43; shut down, 8, total, 99.

REAGAN COUNTY
Wells Drilling
University, Big Lake Oil Co. 126, 130, 131, 132, 136.
University, Skelly Oil Co. 1.
Shut Down
University, Big Lake Oil Co. 110, 124, 125, 127, 128, 129, 133, 135.
University, Henshaw & Camp 1.
University, Group 1, Texon O. & L. Co. 61.
University, Group 1, Texon O. & L. Co. 1-B.
Shofner & Sterling, White et al 1.
Wells drilling, 6; shut down, 12; total, 18.

RUNNELS COUNTY
Rigs

Harris est., Gibson & Johnson 1.
H. P. Serratt, Gibson & Johnson 1.
Chas. Ray, Miles Oil Co. 1.
H. B. Fowler, Owenwood Oil Corp. 1.
A. C. Willingham, Royal Pet. Co. 1.
J. L. King, Watchorn O. & G. Co. 1.

Wells Drilling
C. C. Gray, Empire G. & F. Co. 1.
J. M. Schneider, May et al 1.
L. S. Lawhon, Miles Oil Co. 1.
Simms, Noble O. & G. Co. 1.
E. A. Werner, Swensondale Oil Co. 1.
Shut Down
J. E. Tally, Kenwood Oil Corp. 1.
Rigs, 6; wells drilling, 5; shut down, 1; total, 12.

UPTON COUNTY
Rigs
K. C. M. & O. R. R. Right of Way, R. H. Paxton 2, 3, 4, 5, 6.
Bowen, Roxana Pet. Corp. 27.
J. M. Perry, The Texas Co. 5.
Wells Drilling
J. F. Lane, Champlin O. & R. Co. 3.
J. F. Lane, Skelly Oil Co. 1.
C. W. Hobbs, Southern Crude Oil Pur. Co. 1.
J. M. Perry, The Texas Co. 4.
Union Land Co., The Texas Co. and Cordova Union Co. 1.
W. A. Chaney, Tulsa Drlg. Co. et al 1.
Shut Down
D. C. Giddings, L. E. Hultz et al 2.
Benton Land Co., Marland Oil Co. 3.
J. H. Porter, Wise & Jackson 1.
Rigs, 7; wells drilling, 6; shut down, 3; total, 16.

WINKLER COUNTY
Rigs
Brown et al, V. T. Bolin et al 1.
Ida Hendrick-B, Humble O. & R. 2.
Grisham-Hunter-B, Independent O. & G. Co. 2, 3.
Ida Hendrick-A, Landreth Prod. Corp. et al 2, 3.
Grisham-Hunter-B, Murchison Oil et al 1.
Grisham-Hunter, Murchison Oil et al 2, 4.
T. G. Hendrick, Mining & Engineering 1.
Grisham-Hunter-B, Pure Oil Co. 4.
Ida Hendrick-B, Roxana Pet. Corp. 2.
Grisham-Hunter-B, Roxana Pet. Corp. 2.
Grisham-Hunter, T-89-A, Southern Crude Oil Purchasing Co. 3, 4.
Ida Hendrick, T-88-C, Southern Crude Oil Purchasing Co. 7.
Ida Hendrick, T-88-G, Southern Crude Oil Purchasing Co. 1.
Ida Hendrick, T-88-C, Southern Crude Oil Purchasing Co. 5, 6.
Grisham-Hunter-B, Texon O. & L. Co. 2.
Wells Drilling
J. B. Walton, Amerada Pet. Corp. 1.
Grisham-Hunter, Atlantic O. P. Co. 1, 2.
Ida Hendrick, Atlantic O. P. Co. 1.
Grisham-Hunter-C, Atlantic O. P. Co. 1.
Ida Hendrick-D, Atlantic O. P. Co. 1.
M. H. Bashara, Cranfill Bros. Oil Co. 1.
Ida Hendrick-A, Cranfill & Reynolds 2.
Grisham-Hunter-B, Cranfill & Reynolds 1.
Grisham-Munter, Eastland Oil Co. et al 1.
Grisham-Hunter, Humble O. & R. 1, 3, 4.
Ida Hendrick-B, Humble O. & R. 1, 3.
Grisham-Hunter-B, Independent O. & G. 1.
Ida Hendrick-B, Independent O. & G. 1.
T. G. Hendrick, Gulf Prod. Co. 3, 5, 6, 7.
Grisham-Hunter, Landreth Prod. et al 2.
Ida Hendrick-A, Landreth Prod. et al 1, 4.
Ida Hendrick, Magnolia Pet. Co. 1, 2, 3.
Grisham-Hunter-B, Murchison Oil Co. et al 2, 3, 4.
Grisham-Hunter, Pure Oil Co. 2, 3.
Grisham-Hunter-B, Pure Oil Co. 1, 2, 3.
Grisham-Hunter-B, Republic Prod. Co. 2.
Ida Hendrick-C, Roxana Pet. Corp. 1.
Grisham-Hunter-D, Roxana Pet. Corp. 1.
Ida Hendrick, Sheldon & Burden 1.
Grisham-Hunter, 3-T-68-A, Southern Crude Oil Purchasing Co. 1, 2, 3.
Grisham-Hunter, T-89-A, Southern Crude Oil Purchasing Co. 1.
Grisham-Hunter, T-89-A, Southern Crude Oil Purchasing Co. 2.
Ida Hendrick, 3-T-67-A, Southern Crude Oil Purchasing Co. 1, 2.
Ida Hendrick, T-67-C, Southern Crude Oil Purchasing Co. 3, 4.
Ida Hendrick, T-88-C, Southern Crude Oil Purchasing Co. 1, 2.
Ida Hendrick, T-67-F, Southern Crude Oil Purchasing Co. 1.
Ida Hendrick, T-88-C, Southern Crude Oil Purchasing Co. 3, 4.
Ida Hendrick, Thurman et al 2.
H. E. Collins, White Eagle O. & R. 1.
Shut Down
Grisham-Hunter-E, Atlantic O. P. Co. 1.
Grisham-Hunter, Independent O. & G. 1, 2.
Seth Campbell, Liner Drlg. Co. 1.
Cowden Cattle Co., R. S. Matthews 1.
T. G. Hendrick, Gulf Prod. Co. 2.
Grisham-Hunter-A, Republic Prod. Co. 1.
Grisham-Hunter-E, Republic Prod. Co. 1-A.
Grisham-Hunter-A, Roxana Pet. Corp. 1.
Ida Hendrick-B, Roxana Pet. Corp. 1.
Ida Hendrick, T-67-B, Southern Crude Oil Purchasing Co. 1.
Ida Hendrick, T-88-B, Southern Crude Oil Purchasing Co. 2.
Grisham-Hunter-A, Texon O. & L. Co. 2, 3.
Grisham-Hunter-B, Texon O. & L. Co. 1.
Ida Hendrick, Thurman et al 1.
Rigs, 20; wells drilling, 55; shut down, 16; total, 91.

MISCELLANEOUS WEST TEXAS COUNTIES

ANDREWS COUNTY
Wells Drilling
J. S. Means, Neff et al 1.
Cowden, Zweifel & Carter 1.
Shut Down
Ratliff & Bedford, Calvin & Belt 1.
Ratliff & Bedford, J. S. Cosden 1.
W. J. Harris, Deep Rock Oil Co. 1.
Wells drilling, 2; shut down, 3; total, 5.

BORDEN COUNTY
Shut Down
G. E. McDavid, Marland Oil Co. 1.

BREWSTER COUNTY
Rigs
Decies, Cady & Keller 1.
Wells Drilling
Turney, Mid-Kansas O. & G. Co. 1.
Shut Down
McIntyre, McPhail & Kempter 1.
Gage, Wilcox & Anderson 1.
Kimball, Reese & White 1.
Rigs, 1; wells drilling, 1; shut down, 3; total, 5.

COKE COUNTY
Wells Drilling
Mrs. B. Byrnes, Danciger O. & R. Co. 1.
E. C. Rawlings, Lipan Oil Co. 1.
S. M. Conner, Lipan Oil 1.
Shut Down
W. L. Foster, W. H. Brown et al 1.
Wells drilling, 3; shut down, 1; total, 4.

CONCHO COUNTY
Wells Drilling
Hartgrove, The Exploration 1.
Shut Down
Schultz, Parks & Lawson 1.
Wells drilling, 1; shut down, 1; total, 2.

CULBERSON COUNTY
Wells Drilling
Kloh-Rumsey, Deep Rock Oil Co. 2.
Radford Grocery Co., James H. Gardner et al 1.
Shut Down
Miller, Scott & Dittman 1.
Wells drilling, 2; shut down, 1; total, 3.

ECTOR COUNTY
Wells Drilling
W. E. Connell, The Texas Co. et al 1.

FISHER COUNTY
Rigs
J. S. McCall, Marland-Texon 1.
Wells Drilling
J. A. Young, Cranfill & Reynolds 1.
D. Stevens, The Texas Co. 1-A.
Shut Down
Jameson, Ideal Oil Co. 1.
Marberry, Rainey et al 2.
J. A. Danise, Sinclair O. & G. 1.
Rigs, 1; wells drilling, 2; shut down, 3; total, 6.

GAINES COUNTY
Wells Drilling
Birge & Forbes, Westheimer & Daube 1.

GARZA COUNTY
Wells Drilling
E. P. Swenson et al-A, Gulf Prod. Co. 1.
Shut Down
D. Boren, Emerald Oil Co. 1.
Wells drilling, 1; shut down, 1; total, 2.

GLASSCOCK COUNTY
Wells Drilling
Settles, Texo-Marland 1.
W. B. Currie, California Co. 2.
Wells drilling, 2; total, 2.

HUDSPETH COUNTY
Rigs
Gardner & Mosely, Lockhart et al 1.
Wells Drilling
Moore, Lockhart et al 1.
Shut Down
Gardner & Mosely, Lockhart Bros. 1.
Rigs, 1; wells drilling, 1; shut down, 1; total, 3.

IRON COUNTY
Rigs
J. M. Nutt, F. E. Webb et al 1.
Shut Down
G. H. Bird, Cash Dollar et al 1.
Rigs, 1; shut down, 1; total, 2.

JEFF DAVIS COUNTY
Wells Drilling
Crecencio Flores, Humble O. & R. Co. 3.
J. Z. Means, J. K. Hughes 2.
Wells drilling, 2; total, 2.

KENT COUNTY
Rigs
N. V. Bibly, Marland-Texon 1.

LOVING COUNTY
Rigs
Fee, Lockhart Bros. 1.
Shut Down
W. D. Johnson, Owens & Sloan 1.
Rigs, 1; shut down, 1; total, 2.

LYNN COUNTY
Shut Down
Nevels, Elpo Oil Co. 1.

MENARD COUNTY
Shut Down
Kothmann, Carpenter & Robbins 1.

MIDLAND COUNTY
Shut Down
J. M. Moreland, Grisham Oil Co. 1.

NOLAN COUNTY
Rigs
Pepper, Herbert Oil Co. 1.
T. E. Arledge, Winemiller Corp. 1.
Shut Down
Longbotham, Zweifel et al 1.
Rigs, 2; shut down, 1; total, 3.

PRESIDIO COUNTY
Rigs
Fields, Pinto Canyon Oil Co. 1.
Shut Down
Tootle est., Headlock & Miller 1.
Rigs, 1; shut down, 1; total, 2.

REEVES COUNTY
Rigs
Rathge & Conner, Grisham-Hunter 1.
Wells Drilling
A. A. Kinney, Exploration Co. 1.
Duff World Oil Co. 1.
A. A. Eddins, David R. Thompson 1.
Shut Down
Holder, World Oil Co. 1.
Rigs, 1; wells drilling, 3; shut down, 1; total, 5.

SCHLEICHER COUNTY
Shut Down
J. A. & W. T. Whitten, Beavers & Leath, 1.
Ball Robinson, Thomas Grey et al, 1.
Wells shut down, 2; total, 2.

SCURRY COUNTY
Rigs
J. J. Koonsman, J. Mims et al, 1.

STERLING COUNTY
Shut Down
Neal Reed, Orr et al, 1.

STONEWALL COUNTY
Wells Drilling
R. P. Morrow, Peer Oil Corporation & Johnston, 1.

TAYLOR COUNTY
Wells Drilling
Henslee, Brown Producing Co. 1.
C. M. Brown, Gilbert & Johnson & Dyar Brothers, 1.
Sam Butman, Roeser & Pendleton, 1.
Shut Down
J A., Hamner, Dorning & Perrine, 1.
I. T. Latimer, Owens & Sloan, 1.
Wells drilling, 3; wells shut down, 2; total, 5.

TERRELL COUNTY
Rigs
Bassett, Milham Corporation, 1.

TERRY COUNTY
Shut Down
Brownfield, Kingsland Oil & Potash Co. 1.

TOM GREEN COUNTY
Wells Drilling
Bennett, Fitzgerald et al, 1.
J. W. Johnson, Marland Oil Co. 1.
J. W. Johnson-A, Marland Oil Co. 1.
Adama, Tulsa Oil Co. 1.
Shut Down
Llano County School Land, Cox et al, 1.
Wells drilling, 4; wells shut down, 1; total, 5.

VAL VERDE COUNTY
Wells Drilling
Sellars, Douglas Oil Co. 1.
Whitehead, Magnolia Petroleum Co. 1.
N. Y. J. Mills, O. O. Owens, 1.
Shut Down
Moore Estate, A. Blume, 1.
Russell & Weathersbee, East Del Rio Oil Co. 1.
Holman, Williams et al, 1.
Wells drilling, 3; wells shut down, 4; total, 7.

NORTH CENTRAL TEXAS
WELLS COMPLETED
ARCHER COUNTY

Kemp & Kell, Hammon et al, 3-A	1
Allen, Stidham & Thrasher, 1	dry
Donnell, Clark et al, 1	dry
Seay, Maer & Stanifor.h, 1	dry
Garvey, Robert Oil Corporation, 2	37
Ward, Underwood Drilling Co. et al, 5	dry
Netherton, Consolidated & Continental Oil Co. 4	77
Kemp & Kempner, Hammon et al, 1	7
Crawford, Consolidated Oil Co. & The Texas Co. 1	dry
Farmer, W. J. Grisham, 1	20
Garvey, H. Hines & The Texas Co. 1	dry
Helm, Panhandle Refining Co. 1	dry
Netherton, Consolidated & Continental Oil Co. 5	dry
Brown, Hart et al, 1	dry
Wilson, Navarro Oil Co. 3	dry
Perkins et al, Paul Steed et al, 4	15
Wilson, United Producers Co. 1	dry
Harris, L. T. Burns & The Texas Co. 1	dry
Bearden, Consolidated Oil Co. 2	dry
Wilson-D, Atlantic O. P. Co. 6	10
Carter, Consolidated & Marland Oil Co. 1	dry
Ward, Consolidated & Underwood, 1	dry
Hayter, Cook & Reeder, 1	dry
Farmer, McGregor & Panhandle Refining Co. 3	40
Cowan, Murchison Oil Co. 1	dry
Wilson-B, Shappell Oil Co. 10	dry
Whittaker, Hines et al, 1	dry
Ward, Johnson et al, 1	dry
Hudson, Long et al, 2	8
Farmer, McGregor & Panhandle Refining Co. 3	40
Cowan, Murchison Oil Co. 1	dry
Wilson-B, Shappell Oil Co. 10	dry
Whittaker, Hines et al, 1	dry
Ward, Johnson et al, 1	dry
Hudson, Long et al, 2	8
Marsh, Long et al, 1	dry
Bearden, J. Menke, 1	dry
Wells completed	31
Production	225
Dry holes	22

BAYLOR COUNTY

Young, Mel Richards, 1	dry
Young, Mel Richards, 2	dry
Wells completed	2
Dry holes	2

BROWN COUNTY

Cason Jr., Bowers, 3	90
M. L. Smith, Cranfill & Reynolds, 9	390
Marr, Curtis & Pandem Oil Corporation, 1	dry
Armstrong, Humble Oil & Refining Co. 11	259
Hickman, Kone Production Co. 6	36
Armstrong, Lent Brothers, 1	dry
Keeler, Mitcham, 1	dry
Newsome, Phillips Petroleum Co. 3	10
Spencer, Ross Drilling Co. 1	dry
M. L. Smith, Sinclair Oil & Gas Co. 8	250
M. L. Smith, E. L. Smith Oil Co. 6	10
M. L. Smith, E. L. Smith Oil Co. 9	155
M. L. Smith, E. L. Smith Oil Co. 19	285
Woolridge, Veale et al, 9	dry
Lewis, Vondran et al, 2	dry
Taylor, Golden Rod Oil Co. 1	gas
McGaughey, J. H. Shell, 1	dry
Evans, Van Bibber & Lehman, 1	dry
Looper, Warren Dev. Co. 2	dry
Ratliff, Warren Dev. Co. 1	dry
King, Cameron et al, 1	dry
M. L. Smith, Cranfill & Reynolds, 10	50
M. L. Smith, Cranfill & Reynolds, 16	800
George, Daniels et al, 1	dry
Moore, Forest Oil Co. 3	150
J. Gilbreath-A, J. K. Hughes Developing Co. 2	8
J. Gilbreath, Humble Oil & Refining Co. 4	738
J. Gilbreath, Humble Oil & Refining Co. 5	644
Hickman, Humble Oil & Refining Co. 22	444
Newsome, Phillips Petroleum Co. 6	115
M. L. Smith, Roxana Petroleum Corporation, 16	67
Moore, E. L. Smith Oil Co. 2	130
Guyer, Clark et al, 2	10
Earp, Shell, 1	dry
Gilbreath, Amerada Pet. Corp., 1	311
Gilbreath, Amerada Pet. Corp. 2	243
Gilbreath, Humble Oil & Ref. Co. 6	300
Gilbreath, Humble Oil & Ref. Co. 7	296
Hickman, Kone Production Co. 7	dry
Newsome, Phillips Petroleum Co. 5	400
Early, Russell, 1	dry
Ellis, Selby Oil & Gas Co. 18	817
Ellis, Selby Oil & Gas Co. 19	250
M. L. Smith, Sinclair Oil & Gas Co. 9	150
Moore, E. L. Smith Oil Co. 3	dry
M. L. Smith, E. L. Smith Oil Co. 20	200
Newton, West & H-Y Oil Co. 22	dry
M. L. Smith, Wheelock & Collins, 2	200
Newton, West & H-Y Oil Co. 22	dry
M. L. Smith, Wheelock & Collins, 2	65
Moore, Amerada Pet. Corp., 1	dry
M. L. Smith, Cranfill & Reynolds, 17	50
Mauldin, J. K. Hughes Dev. Co. 1	25
Armstrong, Humble Oil & Ref. Co. 12	34
Hickman, Humble Oil & Ref. Co. 23	4
Hickman, Kone Production Co. 8	dry
Newsome, Phillips Petroleum Co. 7	25
Scott, Ivey Py Oil & Gas Co. 1	dry
Moore, E. L. Smith Oil Co. 6	3
Voiz, Perry, 1	35
Guyer, Clark et al, 3	dry
McDonald, Longre, 1	gas
M. L. Smith, Cranfill & Reynolds, 14	50
George, Harper et al, 1	dry
Armstrong, Humble Oil & Ref. Co. 13	45
Ellis, Selby Oil & Gas Co. 21	15
King, Goldenrod Oil Co. 2	dry
Stewart, Massey, 1	6
Evans, Van Bibber & Lehman, 2	dry
Looper, Warren Development Co. 3	dry
Wells completed	68
Production	8054
Gas wells	2
Gas production	5,700,000
Dry holes	25

CALLAHAN COUNTY

Beck, Denny & Andrews, 1	dry
Hatchett, Sterling Oil Co. 1	dry
Kelton, Reid & Groce, 1	dry
Pate, Jones Oil Syndicate, 1	dry
Baum, Prairie Oil & Gas Co. 5	50
McWhorter, Seaboard Oil & Gas Co. 1	dry
Waller, Bradstreet, 2	150
Waller, Bradstreet, 3	180
N. Newman, Gibson & Johnson, 1	dry
S. Snyder, Gibson & Johnson, 1	dry
S. Snyder, Gibson & Johnson, 2	dry
Jackson, Martin, 1	25
T. E. Baum, Prairie Oil & Gas Co. 2	dry
Moore, Ross Petroleum Co. 1	10
Hall, Shadbolt & Creighton, 1	dry
Orrell, Skelly Oil Co. 1	dry
Hickman, Garner, 1	1
S. Snyder, Gibson & Johnson, 3	dry
Alvord, Goodloe & Duffy, 1	gas
Hood, Reid & Grace, 1	dry
Hood, Reid & Groce, 2	dry
Miller, Shaw et al, 3	20
Wells completed	22
Gas wells	1
Production	417
Gas production	2,000,000
Dry holes	14

COLEMAN COUNTY

Cameron, Hoffer Oil Corp. 2	dry
Green, The Texas Company, 1	dry
Casey, White Eagle Oil & Ref. Co. 3	dry
Fender, Allison, 1	dry
Jennings, Cunningham, 1	gas
Hassard, Tower, & McKanna, 1	dry
McClure, Ingleright et al, 1	dry
Wells completed	7
Gas wells	1
Gas production	1,000,000
Dry holes	6

COOKE COUNTY

Harris, Fain-Mocaha Oil Corp. 1	dry
Harris, Stoneman et al, 1	dry
Dennis-B, Kewanee Oil & Gas Co. 2	dry
Koelzer, Continental Oil Co. 1	22
Harris-A, Danciger Oil & Refining Co. 1	dry
Cox, Houseman et al, 1	dry
Walterschied, Houseman & Lawson, 1	dry
Koelzer, Miller Drilling Co. et al, 2	43
Bayer, Camp, Heydrick & Oil Operators' Trust Co. 1	14
Bindle, N. H. Martin et al, 1	69
Hacker, Sun Oil Co. 6	34
Hacker, The Texas Company, 3	33
Koelzer, Continental Oil Co. 2	30
Wells completed	13
Production	235
Dry holes	6

EASTLAND COUNTY

Clemmer, Allworth, 1	dry
Duffer, Barkley et al, 1	161
Johnson, Lewis et al, 2	gas
Hargus, Teatsorth et al, 2	dry
Hightower, The Texas Company, 18	dry
Hightower, The Texas Company, 19	30
Chesley, Thomas & Reynolds, 1	gas
Fox, J. W. Hooser, 3	200
Hargus, Lewis et al, 4	gas
Sibley, Mook-Texas Oil Co. 8	10
Fox, Panhandle Refining Co. 2	dry
Poe, Independent Oil & Gas Co. et al, 1	dry
Thorp, McLester Oil Co. et al, 2	135
Thorp, McLester Oil Co. et al, 4	500
Luse, Associated Petroleum Co. 2	dry
Barnett, Lowe, Delaney & Carter, 2	dry
McFall, Prairie Oil & Gas Co. 1	40
Nix, Adams et al, 1	gas
Fox, J. W. Hoosier, 4	100
Moats, Kokomo Petroleum Co. 1	dry
Blackwell, Parsons et al, 1	gas
Blackwell, Parsons et al, 2	5
Morgan, Independent Oil & Gas Co. 3	dry
Qualls, Lorenzen, 1	dry
Thorp, McLester Oil Co. et al, 4	1195
J. D. Parsons-A, Gulf Prod. Co. 9	35
Dillon, T. P. Coal & Oil Co. 1	dry
Wells completed	27
Production	2411
Gas wells	5
Gas production	43,000,000
Dry holes	11

FOARD COUNTY

McAdams, Humble-Navarro Oil Co. 1	dry

GRAYSON COUNTY

Taylor, Richardson Brothers, 1	dry
Handy & Thorn, Tucker & Evertt, 1	dry
Wall, Simpson & Fell Oil Co. 1	gas
Wells completed	3
Gas wells	1
Gas production	2,000,000
Dry holes	2

HASKELL COUNTY

Wright, Kouri et al, 1	dry
Clark, Marland & Texon, 1	dry
Wells completed	2
Dry holes	1

JACK COUNTY

Jones Estate, Buttram Pet. Co. 3	120
Coats, Craig, Lowrie & Walton, 2	14
Fee, Holman & Rhea, 2	100
Brentmore Inc., Bland & Strang, 3	4
Brentmore Inc., Bland & S rang, 4	dry
Brentmore Inc., Bland & Strang, 5	35
Cantrell, Chapman & Fitzhue, 1	10
Coats, Craig-Lowrie & Walton, 3	10
Voyles, S. E. J. Cox, 1	dry
Brentmore Inc., Mahlstedt-Mook Oil Co. 1	dry
Zuber, Creighton & Shadbolt 1	dry
McCaslin, Mitchell & Spoonts, 1	dry
Brentmore Inc., Bland & Strang, 6	dry
Ellis et al, Connell & Wixon, 1	15
Shown et al, Galbrai h et al, 1	dry
Ellis et al, Connell & Wixon, 2	12
Hanna, Dale Oil Co. 1	4
Street et al, O'Neil & White et al, 1	dry
Cullers et al, Shaw & Rathke, 3	80
Roach, Bland & Strang, 2	4
Jones Estate, Buttram Pet. Co. 4	117
Coats, Chandler et al, 2	dry
Sloan, Connell & Wixon, 1	dry
Coats, Craig, Lowrie & Walton, 4	15
Sloan, Madden & Hunt, 4	dry
Leach, Smith & Adams, 1	dry
Wells completed	27
Production	450
Dry holes	12

KNOX COUNTY

Goode, Humble Oil & Ref. Co. 1	dry
Beavers, Deep Rock Oil Co. 1	dry
Wells completed	1
Dry holes	1

MONTAGUE COUNTY

Cobb, Pace et al, 1	dry
Tinney et al, Yates & Cumley, 1	dry
Loy et al, Arco Oil Co. 1	45
Cunningham et al, Jamison et al, 2	gas
Maddox-B, Arco Oil Co. 2	95
Brown, Bridwell, Heydrick & Continental Oil Co. 1	dry
Salmon-A, Bridwell & Heydrick, 1	60
Salmon-A, Bridwell & Heydrick, 3	80
Maddox, Sigler et al, 3	95

Maddox, Skinner et al, 1 ..... dry
Williams, Dickey et al, 2 ..... dry
Hinson, The Texas Company, 2 80
Steadman, McGinley Oil Corp, 1 ..... dry
Maddox-B, Arco Oil Co. 3 45
Edmondson, Continental Oil Co. 1 33
Maddox-A, Continental Oil Co. 23 32

Wells completed 18
Production 452
Gas wells 1
Gas production 20,000,000
Dry holes 5

McCULLOCH COUNTY

Dutton, Ragsdale et al, 1 ..... gas
Dutton, Wakefield et al, 1 ..... dry
Williamson, Cobb, 1 ..... dry

Wells completed 3
Gas wells 1
Gas production 4,000,000
Dry holes 2

PALO PINTO COUNTY

Humphries, De Witt et al, 1 ..... dry
Edgin, Richardson & Dalton, 1 13
Costello, Moun ain Oil Co. 1 13
Costello, Mountain Oil Co. 1 ..... dry
Rasmussen, Pender Production Co. 2 .. dry
Siemmons, Pender Production Co. 3 .. dry
Seaman, Dixie Drilling Co. 1 ..... dry

Wells completed 6
Production 13
Dry holes 5

SHACKLEFORD COUNTY

Huskey, Merry Brothers & Perini, 1 .. dry
Poindexter, Dover, 1 ..... dry
Reynolds, Hope Petroleum Co. 1 ..... dry
J. H. Nail, Sinclair Oil & Gas Co. 3 .. dry
Russ-Webb, Texas Unity Oil Co. 1 8
Davis, Humble Oil & Refining Co. 3 .. dry
Russ-Webb, Texas Unity Oil Co. 2 12

Wells completed 7
Production 20
Dry holes 5

STEPHENS COUNTY

Robinson, Reb Bank Oil Co. 1 ..... dry
Todd, Hanlon Gasoline Co. 1 12
Riddle et al, Mook-Texas Oil Co. 3 5
Works, T. P. C. & O. Co. 2 ..... dry
Cunningham, Gardner Bros. & Collins 3 50
Knox, Republic Prod. Co. 7 ..... dry
Pierce, T. P. C. & O. Co. 5 ..... gas

Completions 7
Production 67
Gas wells 1
Dry 3
Gas production 4,500,000

THROCKMORTON COUNTY

Matthews, Overlees, 2 ..... dry
Matthews, Parker et al, 3 15
Buchanan, Associated Pet. Co. 1 ..... dry
Matthews, Humble Oil & Ref. Co. 1 .. dry
Upshur County School Land, Bridwell-Heydrick & Hickman, 1 ..... dry

Wells completed 5
Production 15
Dry holes 4

WICHITA COUNTY

Chilson-A, Humble Oil & Ref. Co. 2 .. dry
Ramming-B, Magnolia Pet. Co. 26 15
W. T. Waggoner, The Texas Company 330 ..... Junked
American Ref. Co., Duncan & White, 1 dry
Crudup, W. M. Moore, 2 ..... dry
E. E. Goetze, W. D. Cline, 1 ..... dry
J. James, Rayzor et al, 1 ..... dry
W. B. Honaker, The Texas Company, 66 ..... dry
Kemp & Kemp ner, G. S. Dudley 3 20
W. T. Waggoner, The Texas Company 334 5
W. T. Waggoner, The Texas Company 336 100
B. Parker, Lomax, Thorton et al, 1 .... dry
B. H. Preston, Simms Oil Co. et al, 1 .. dry
Kemp & Kemp ner, W. Hammon, 4 3
T. F. Mitchell, Hammon et al, 1 ..... dry
G. Jennings, L. P. Hammond, 6 25
J. A. Watkins, Henry Hobbs, 1 96
Kemp & Kempner, J. O'Neil et al, 1 .. 15
Kemp & Kempner, Pet. Prod. Co. 1 .. dry
Honaker, R. R. Clark et al, 4 ..... dry
Kemp & Kemp ner, J. O'Neil et al, 2 dry
N. H. Martin, Stidham & Thrasher, 1 .. dry
W. T. Waggoner, The Texas Company, 335 32
Kemp & Kempner, Vergate Oil Co. 1-deep 65

Wells completed 24
Production 376
Dry holes 14

WILBARGER COUNTY

W. T. Waggoner-JJ. Phillips Pet. Co. 1-A 35
W. T. Waggoner, Smith & Brady, 1 122
W. T. Waggoner-B, The Texas Company, 1 414
W. T. Waggoner-B, Waggoner Refining Co. 4 ..... dry
Carter, Landreth Prod. Corp. 1 ..... dry
Waggoner-C, Consolidated & Cosden, 1 dry
Waggoner-B, Milham Corpora ion, 12 .. 5
Waggoner-C, Waggoner Refining Co. 3 20

Wells completed 8
Production 596
Dry holes 3

WISE COUNTY

Rogers, Cummings et al, 1 ..... dry

YOUNG COUNTY

Campbell, The Texas Company, 1 ..... dry
Criswell, Hines & Whatley, 1 30
Boozer, Nance & Lucas, 2 ..... Junked
McCluskey, Panhandle Refining Co. 17 60
Donnell, Sun Oil Co. 6 125
Howell, Clark et al, 1 18
Graham, Pitzer & West et al, 1 960
Leberman, Reed & Anderson, 2 ..... dry
Morrison C-B, Pitzer & West, 2 700
Fee, E. C. Stovall, 8 60
Thompson, United Royalty Co. 1 25
Keen, Atlantic Oil Prod. Co. et al, 2 .. 30
Young, E. G. Christie, 1 ..... dry
Neeley, Hamilton et al, 1 ..... dry
Hamilton, Muse et al, 1 ..... dry
McClatchey, The Texas Company, 1 .. dry
McCluskey, Conner et al, 4 475
Jones, J. S. Cosden, 1 ..... dry
Hinson, Nash & Windfohr, 1 467
Morrison Co-A, Pitzer & West, 3 600
Ford, Roxana Petroleum Corp. 12 100
Mothes, Atlantic & Ross, 1 ..... dry
Oliver, Parker et al, 1 ..... dry
Shearer, United Pet. Prod. Co. 1 .... dry
McCluskey, Panhandle Ref. Co. 21 600
Graham-B, Westerfelt & Noble, 1 250

Wells completed 38
Production 4500
Dry holes 11

ARCHER COUNTY

Rigs

Taylor, Atlantic & Jeffers, 1.
Parrish, Burton et al, 1.
Netherton, Consolidated & Continental Oil Co. 6.
Wilson-B, Shappell Oil Co. 11, 13.
Neal, Atlantic & Hines, 1.
Richardson, Burns et al, 1.
Stevens Roach Company, Consolidated Oil Co. 1.
Young, Franklin, 1.
Cowan Estate, Murchison Oil Co. 2.
Thomas-C, Pandem Oil Corporation, 1.
Farmer-B, Panhandle Ref. Co. and Burton 3.
Seay, Staley-Wynne & Co. 1.
Cuba, Weldon & Lowry, 1.

Wells Drilling

Mangold, Atlantic Oil Producing Co. 1.
S. M. Gose, Continental Oil Co. 60.
White, Koll-Tex Oil Co. 7.
Wilson-B, Shappell Oil Co. 18.
Jentsch, The Texas Company, 3.
Benson, Atlantic & Rose, 1.
Fee, Burns & The Texas Company, 1.
Farmer, Burton & Grisham, 1.
Farmer, Carey & Rhader, 2.
Ball, Foster & Erwin, 1.
Estill, Gray Coun y Oil & Gas Co. 1.
Farmer, Harris et al, 1.
Farmer, Hines & The Texas Company, 1.
Hudson, Pandem Oil Corporation, 10.
Farmer-B, Panhandle Refining Co., & Burton, 2.
Wilson Estate, Shaw, 1.
Farmer, Wilson, 2.

Shut Down

Andrews-C, Jeffers & Jeffers 1.
Bearden, McChesney, 5.
Colgan, Panhandle Refining Co. 1.
Rigs, 14; wells drilling, 17; wells shut down, 3; total, 34.

BROWN COUNTY

Rigs

Murphy, Coats & Well, 1.
M. L. Smith, Cranfill & Reynolds, 12, 13, 15, 19, 26.
Baugh, Gilman & McMurray, 1.
Mansfield, Logan & Carter, 1.
McClatchey, Kellar, 1.

Wells Drilling

J. Gilbreath, Amerada Pet. Corp. 3.
DeBusk, Cranfill & Reynolds & Mitcham, 1.
M. L. Smith, Cranfill & Reynolds, 18.
Evans, Dozier, 1.
J. Gilbreath, J. K. Hughes 3-A.
J. Gilbreath, Humble Oil & Refining Co. 9, 10, 8.
Newton, McMurray et al, 14.
J. C. Hall-A, Gulf Production Co. 1.
Nation, Mace, 1.
Boysen, Neiswanger, 1.
Nixon, Osage Oil Corporation, 1.
Hutton, Pandem Oil Co. 1.
Mills, Peck, et al, 1.
Newsome, Phillips Petroleum Co. 8, 9.
Jones, Rathlatt, 2.
Henson, Schaffner, 6.
Truehart, Scrivenor et al, 2.
Ellis, Selby Oil & Gas Co. 20.
M. L. Smith, E. L. Smith Oil Co. 17.
Graham Estate, Stock & Love, 1.
Newton, Veale, 1.
Allcorn, Warren Development Co. 1.
M. L. Smith, Wheelock & Collins, 3.
Hart, Advance et al, 3.
Richardson, Bush & Spinney, 1.
Carter, Choate Interests, 1.
Taylor, Ditto Oil Interests, 1.
Hooper, Gold et al, 1.
Low, Kellar, 1.
Mears, Richardson & Hurst, 1.
Barnes, United Royalties Co. 1.

Wells Shut Down

Miller, Adamson & Bearman, 2.
Cason Brothers, Barton, 1.
Bradley, Bowers, 1.
Haynes, Danciger & Cohan, 7.
Boler, Ditto Oil Interests, 1.
Cason, Jr., Dozier, 1.
McGhee, Pitts, et al, 1.
Turner, Russell et al, 1.
Matlock, Campbell, 1.
Bettis Heirs, Ditto Oil Interests, 1.
F. A. Brownwood, Elams et al, 1.
Beasley, Humphrey Bro hers, 1.
McDaniel, Randall et al, 1.
Rigs, 9; wells drilling, 34; wells shut down, 13; total, 56.

CALLAHAN COUNTY

Mayfield, English, 1.
Cutbirth, Morgan et al, 1.
George, Shadbolt & Creighton, 2.

Wells Drilling

Edwards, Brown & Co. 3.
Harris, Davis & Barbee, 1.
Sealy & Smith, Empire Gas & Fuel Co. 1.
Hall, Humble Oil & Refining Co. 1.
Baum, Mook-Texas Oil Co. 2.
Moore, National Refining Co. 1.
Long, Prairie Oil & Gas Co. 1.
Webb, Prairie Oil & Gas Co. 2, 3.

Wells Shut Down

Windham, Branch Brothers, 1.
Powell, Frost & Ross, 1.
Radford, Kelly et al, 1.
Johnson, Manhattan Oil Co. 1.
Wylie, Parks & Gill, 1.
Ferguson, Sanger Oil Co. 1.
Merrick, Thomas & Goss, 1.
Rigs, 3; wells drilling, 9; wells shut down, 7; total, 19.

COLEMAN COUNTY

Rigs

Gardner, Anzac Oil Co. 1.
McCord Estate, Barbee & Ross, 1, 2.
Stevens, Roth & Faurot, 1.
Hunter, Bebout & Sullivan, 1.
Rae, Bucher & Ertel, 2.
Burson, Donaldson & Miller, 1.
Sealy & Smith, Kors et al, 1.
Williamson, Philmack Oil Co. et al, 1.

Wells Drilling

Farmer, Barbee & Ross, 1.
Harris, English et al, 1.
Parker, English et al, 1.
Mullanax, McIntyre et al, 1.
Morris, Magnolia Petroleum Co. 19.
Morris, Mid-West Exploration Co. 2.
Breneke, Ross Drilling Company et al, 1.
Sealy & Smith, Roth & Faurot, 2.
Overall-D, Anzac & Continental Oil Co. 1.
Johnson, Cadenhead & Andrews, 1.
Beck, Gracey, 1.
Horne, Hoffman & Page, 1.
Overall, Manhattan Oil Co. 1.
Sealy & Smith, Peer Oil Corporation, 1.
Hale, Scarborough, 1.
Belknap, Sorrells & Jackson, 1.

Shut Down

McWilliams, Barbee & Ross, 1.
Stevens, Choate Interests, 1.
Crawford, Englick et al, 1.
Havens, Jameson & Murray, 1.
Rae, Bucher & Ertel, 1.
Robertson, Corsicana Oil & Refining Co. 1.
Kingsberry, Delta Oil Co. 1.
Martin, Dixon & Mitcham, 1.
Ward, Kenwood Oil Corporation, 2.
Henderson, Lee & Daniels, 1.
Lancaster, Locke & Nokes, 1.
Pfluger, Senior Petroleum Co. 1.
Wells, Van Eman et al, 2.
Standridge, Withworth, 1.
Rigs, 9; wells drilling, 16; wells shut down, 14; total, 35.

COOKE COUNTY

Rigs

Bayer, Camp-Heydric & Oil Operators' Trust Co. 2.
Midkiff, Nelson Holding Co. 1.
Dennis, Powell Oil Co. 1.

Wells Drilling

Fleitman, Camp-Heydrick & Oil Operators' Trust Co. 1.
Campbell, Green-Perkins & Skelly Oil Co. 1.
Lewis, P. R. Harris, 1.
Inglish, Lesh-McCall et al, 1.
Bindle, N. H. Martin et al, 2.
Fleitman, McElreath-Suggett & Sinclair Oil & Gas Co. 1.
Campbell, Green-Perkins & Skelly Oil Co. 1.
Lewis, P. R. Harris, 1.
Inglish, Lesh-McCall et al, 1.
Bindle, N. H. Martin et al, 2.
Fleitman, McElreath-Suggett & Sinclair Oil & Gas Co. 1.
Koelzer, Miller Drilling Co., et al, 3.
Harris Estate, Murchison Oil Co. 1.
Luke, Oil Operators Trust Co. 7.
Hacker, Sun Oil Co. 7.
Beckleman, Vacuum Oil Co. 1.

Shut Down

Kelly, Chronic et al, 1.
Wilson, Hoffer Oil Corporation, 1.
Kleiss, Oil Operators Trust Co. 8.
Houston, Simpson e al, 1.
Rigs, 3; wells drilling, 11; wells shut down, 4; total, 18.

EASTLAND COUNTY

Rigs

Earnest, Lightfoot et al, 2.
Sibley, Mook-Texas Oil Co. 5.
Webb, Panhandle Refining Co. 4.
Hightower, The Texas Company, 20.
Been, Independent Oil & Gas Co. 1.
Thorp, McLester Oil Co. 5.
Thorp-B, McLester & States, 2, 3.
Poe, Hoffman, 2.
Barnett, Milham Corporation, 2.
Castleberry, Murray et al, 1.
Weddington, Riley et al, 1.
Thorp, Root et al, 2.

Wells Drilling

Rosenquest, Adamson & Bearman, 3.
Gullett, Atwood, 1.
Duffer, Barkley et al, 2.
Elliott, Corzelius et al, 1.
Wright-A, Eastland Oil Co. 3.
Studdard, Edwards et al, 1.
Powell, Gholson et al, 1.
Fox, John W. Hoosier, 5, 6.
Parsons, Prairie Oil & Gas Co. 3.
Bourland, Teatsworth et al 1.
Grove, Adams et al, 4.
Good, Belva Oil Co. 3.
Griggs, Chestnut & Smith, 1.
Stewart, Hoffman, 1.
Thompson, Livingston & Wellman, 1.
Thorp-B, McLester & States, 1.
Dyer, Moody et al, 2.
Ray, Root et al, 3.

Shut Down

Casey-B, Mook-Texas Oil Co. 1.
Sibley, Mook-Texas Oil Co. 9.
Good, Belva Oil Co. 1.
Ward, Gilman & Simmons, 1.
Poe, Hoffman, 1.
Languat, McGee et al, 1.
Barnett, Milham Corporation, 1.
Thorp et al, Moorman et al, 1.
Watson, Root et al, 3.
Ramsower, West Adams Petroleum Corporation, 3.
Rigs, 13; wells drilling, 19; wells shut down, 10; total, 42.

JACK COUNTY

Jones Estate, Buttram Petroleum Co. 6.
Fields, Consolidated & The Texas Company, 1.
Calvin, R. G. Ryan et al, 1.
Cullers et al, Seaboard Oil & Gas Company et al, 2.

Wells Drilling

Brothers, W. B. Albright, 1.
Cherryholmes, Marland & Zoch, 1.
Greene, Wilson, Clay Oil Co. 1.
Ainsworth Estate, Baldwin, 1.
Jones, Estate, Buttram Petroleum Co. 5.
Jones Estate, Christie Brothers, 2.
Hanna, Dale Oil Corporation, 2.
J. B. Jackson, W. H. Henderson, 1.
Moore, Hicks & McNabb, 1.
Fee, Holman Heirs, 4.
First State Bank of Bryson, Lydecker et al, 1.
Moore, A. Lydecker, 1.
Street et al, O'Neil & White et al, 2.
Cullers et al, Shaw & Rathke, 4.
Williams Brothers, Watchorn Oil & Gas Co. 1.

Shut Down

Johnson, Fletcher Royalty & Drilling Co. 1.
McClure, Buttram Petroleum Co. 1.
Walker, S. E. J. Cox, 1.
Clerihew, Kessler & Logan, 1.
Gray, Rochelle et al, 1.
Richards & Lanier, Thedford Brothers, 4.
Rigs, 42; wells drilling, 15; wells shut down, 6; total, 25.

MONTAGUE COUNTY

Rigs

Jones, Pure Oil Co. 4.
Dennis, Sinclair Oil & Gas Co. 1.
Maddox-B, The Texas Company, 5.

Wells Drilling

Loy et al, Arco Oil Co. 2.
Salmon-C, Arco Oil Co. 1.
Salmon-A, Bridwell & Heydrick, 3.
Heaton et al, Christie Brothers, 1.
Hinton, Continental Oil Co. 3.
Salmon-B, Continental Oil Co. 1.
Hinton, Humble Oil & Refining Co. 2.
Roper, R. W. Little Oil Co. 1.
Salmon-Henley, The Texas Company, 1.

Shut Down

Hodge, Baker & McClure, 1.
Parr, Chambers & Anchor, 1.
Rigs, 3; wells drilling, 9; wells shut down, 2; total, 14.

SHACKLEFORD COUNTY

Wells Drilling

McKelvey, Bridwell & Heydrick, 3.
King, Evans et al, 1.
Moberly, Hyde, 1.
Beam, Kouri, 1.
Sedwick, Milham Corporation, 8.
Cook-B, Section 60, Roeser & Pendleton, 4.
Ackers, Simmons, 1.

Shut Down

Barkley, Abbott, 1.
McLemore, Harris et al, 2.
Fukusshima, Milham Corporation, 1.
Hammond, Smart, 1.
Jenkins, Waddington & House, 1.
Rigs, 0; wells drilling, 7; wells shut down, 8; total, 12.

STEPHENS COUNTY

Rigs

Wilson, Hanlon Gasoline Co. 1.
Houston, The Texas Company, 4.
Riddle et al, Thompson e al, 1.

Wells Drilling

Black Brothers, Dyar Brothers, 1.
Cunningham, Mid-Tex Oil Co. 5.
Keel, Pender Production Co. 6.
Martin, Texas Comb. Oil Co. 10.
Gardenshire, Barnhart & Conway Brothers, 1
Ledbetter, Beatty et al, 1.
Riddle Clark, 3.
Curry, Lyman et al, 1.
Thorp, McLester Oil Co. 1.
Riddle et al, Mook-Texas Oil Co. 4.
K. Stoker, The Texas Company, 1.

Shut Down

Mitchell, McGinley et al 2.
Hamil, Hickok Producing Co. 1.
Proctor, Prairie Oil & Gas Co. 2.
Riddle, Clark 2.
Tomlinson, Garrett & Moore 1.
Litton, Hatcher et al 1.
Langford, McKinnon et al 1.
Rigs, 3; wells drilling, 11; wells shut down, 7; total, 21.

THROCKMORTON COUNTY

Wells Drilling

Cole, Red Bank Oil Co. 1.
Cummings, Associated Pet. Co. 4.

Shut Down

Stacey, Associated Petroleum Co. 2.
Rigs, 0; wells drilling, 2; wells shut down, 1; total, 3.

WICHITA COUNTY

Rigs

H. Reilly, Magnolia Petroleum Co. 137.
S. L. C. Warren, Magnolia Pet. Co. 11.
F. P. Warren, W. J. Moran 14.
A. A. Carl, John O'Neil 1.
Watkins, Henry Hobbs 2.
McCarty, Lease 2, Mrs. R. A. Laning et al 3.
Watkins, Magnolia Pet. Co. 12.
Burnett-B, W. M. Moore 1.
Kemp & Kempner, Shappell Oil Co. 10.
W. T. Waggoner, The Texas Company 337.
Kemp & Kempner, Vergate Oil Co. 2-Deep.
Watkins, Vergate Oil Co. 1-Deep.
Ferguson, A. T. Wolfe 1.

Wells Drilling

J. E. Roller, The Ascot Co. 19, 35.
H. Reilly, Magnolia Pet. Co. 136.
F. P. Warren, W. J. Moran 13.
R. L. Srudup, W. M. Moore 3.
Schnackenberg, A. A. Rollstone 1.
Waggoner, Consolidated and The Texas Company 1.
G. B. Ancell, Continental et al 1.
Waggoner Bros., Cooper & Mishler 13.
Kemp & Kempner-B, Dale Oil Corp. 5.
Watkins, Electra Gulf Oil Co. 8.
Cooper, Chester Everts 1.
McCarty, W. H. Hammon 1.
Mitchell, Hammon et al 2.
W. L. Hodges, Henry Hobbs 1.
Allingham, A. T. McDannald 1.
W. L. Hodges, O'Donohoe & Gates 1.
J. M. Honaker, C. P. Sheldon et al 2.
W. T. Waggoner, The Texas Company 333, 338, 339, 340.

Shut Down

B. F. Dutton, C. E. Birk et al 1.
M. Reis, C. C. Bradford 1.
Hirschi, Howell & Somers 1.
Rigs, 13; wells drilling, 22; wells shut down, 3; total, 38.

WILBARGER COUNTY

Rigs

Fluhman-A, Atlantic Oil Producing Co. 2.
Waggoner-M, Fain-McGaha Oil Corporation, 1.
Waggoner-N, Fain-McGaha Oil Corporation, 1.
Waggoner-A, Lawson, 1.
Waggoner-B, Milham Corporation, 17.
Waggoner-D, Murchison Oil Co. 1.
Waggoner, Muse et al, 1.
Waggoner-A, Muse et al, 1.
Waggoner-B, The Texas Company, 4.
Waggoner-C, The Texas Company, 1.
Waggoner-D, The Texas Company, 1.

Wells Drilling

Ancell, Barnes, 2.
Waggoner-L, Fain-McGaha Oil Corporation, 1.
Waggoner, Golding-Cochran & Marland Oil Co. 1.
F. Fluhmann, Gulf Production Co. 1.
Waggoner-H, Humble Oil & Refining Co. 21.
Guyer, McLaughlin Brothers, 1.
Waggoner-B, Milham Corporation, 13.
Waggoner-C, Milham Corporation, 1.
Womack, Muse & Robinson, 1.
Lutz, North Vernon Oil Co. 1.
Waggoner-A, Petroleum Prod. Co. et al, 1.
Waggoner-A, Phillips Petroleum Co. 15.
Waggoner-C, Phillips Petroleum Co. 2.
Waggoner-F, Phillips Petroleum Co. 12.
Waggoner-T, Phillips Pe roleum Co. 8, 9.
Waggoner-MM, Phillips Petroleum Co. 1.
Waggoner-NN, Phillips Petroleum Co. 12.
Waggoner-OO, Phillips Petroleum Co. 22.
Waggoner-SS, Phillips Petroleum Co. 2.
Waggoner-A, Prairie Oil & Gas Co. 7.
Waggoner-B, Prairie Oil & Gas Co. 5.
Waggoner-D, Roxana Petroleum Corporation, 4.
Waggoner, Sloan, 2.
Waggoner, Section 9, Staley-Wynne & Co. 1.
Castleberry-B, The Texas Company, 2.
Waggoner-E, Waggoner Refining Co. 1.

Shut Down

Fluhman, Fain-McGaha Oil Corporation et al, 10.
Castleberry-A, Humble Oil & Refining Co. 1.
Zipperle, Keltz, 2.
Rigs, 11; wells drilling, 27; wells shut down, 3; total, 41.

YOUNG COUNTY

Rigs

McDonald, Holbrook & Woods, 1.
Stowe, The Texas Company, 1.
Hudson, Lucas et al, 1.
Boozer, Moutray Oil Co. 1.
Hinson, Nash & Windfohr, 3.
Ware, Nash & Windfohr, 2.
Morrison, Paull Oil Co. 5, 6.
Callahan, Pitzer & West, 1.
Hinson, Pitzer & West, 3.
Morrison-B, Pitzer & West, 3, 4.
Thigpen, Pitzer & West, 1.
Ragland, Seaboard Oil & Gas Co. 3.
Robertson, Smor, 1.

Wells Drilling
Keen, Atlantic et al, 3.
T. L. Lisle, Gulf Production Co. 5.
Stewart, Carter, Fine & Carter, 1.
Christian, Gwynn et al, 2.
McClatchey, Roamer Oil Co. 1.
Ford, Atkinson & Sandefer, 3-A.
Thornton, Bob Brookins, 1.
McCluskey, Conner et al, 10.
State Land, Eureka Production Co. 7.
Graham, Godley Oil Co. 16.
Thedford, Hubbard Drilling Co. 1.
Weldon, Jacob Oil & Gas Co. 1.
Graham, Lindsley & Bollin, 1.
Davis, Lyman et al, 1.
Bower, McCoy et al, 1.
Hinson, Nash & Windfohr, 2.
Donnell, Painter et al, 1.
McCluskey, Panhandle Refining Co. 1.
Donnell, Fardee, et al, 1.
Morrison, Faull Oil Co. 3, 4.
Scott, Pemelia Oil Co. 1.
Hinson, Pitzer & West, 2.
Morrison-A, Pitzer & West, 4, 5.
Payne, Ramsey et al, 3.
Stovall Ruthada Oil Co. 5.
Graham, Seaboard Oil & Gas Co. 10.
Ragland, Simms et al, 1.
Ribble, Simms et al, 1.
Stinson, T. P. Coal & Oil Co. 1.
Street, The Texas Company, 1.
Wallace, United Royalty Co. 1.

Shut Down
Donnell, Atkinson & Sandefer, 2.
Ford, Atkinson & Sandefer, 4.
Graham, Canyon Oil & Gas Co. 1.
Driver, Foster, 1.
Sayers, Jacob Oil & Gas Co. 1.
Stovall, Ruthada Oil Co. 2.
Rigs, 16; wells drilling, 33; wells shut down, 6; total, 55.

MISCELLANEOUS

BURNETT COUNTY
Wells Drilling
Warden, Guffey & Gold, 1.

DENTON COUNTY
Wells Drilling
Wilkerson, Hart Brothers, 1.
Fortenberry, Lesh-McCall et al, 1.

Shut Down
Rucker, Gray & Adams, 1.
Boner & Phillips, Harty et al, 1.
Treitsch, Hudson Brothers, 1.
Rigs, 0; wells drilling, 2; wells shut down, 3; total, 5.

CLAY COUNTY
Wells Drilling
Miller, Lone Star Gas Co. 16.

Shut Down
Wetsel, H. R. Edwards, 2.
Gault, Grubbs & Gill, 1-A.
Henderson, Carter, Fines et al, 1.
Meyer, Hirvick et al, 1.
Rigs, 0; wells drilling, 1; wells shut down, 4; total, 5.

COLLIN COUNTY
Shut Down
Watkins, Verona Production Co. 1.

COMANCHE COUNTY
Wells Drilling
Crump, Hoffer Oil Corporation, 1.
Cozby, Welsh et al, 1.

Shut Down
Strickland, Carter et al, 1.
Maxwell, Hickey et al, 1.
Barnes, Humphrey Brothers, 1.
Strickland, Moore, 1.
Chapman, Swoveland et al, 1.
Barnes, Trojan Oil Co. 1.
Rigs, 0; wells drilling, 2; wells shut down, 6; total, 8.

ERATH COUNTY
Wells Drilling
Gage, House et al, 1.

Shut Down
Barton, Gillett, 1.
Finch, Nelson Oil Syndicate, 3.
Wells drilling, 1; wells shut down, 2; total, 3.

FANNIN COUNTY
Rigs
Darling, Gist & Grady, 1.

Shut Down
Broadfoot, Honey Grove Oil & Gas Co. 1.
Rigs, 1; wells shut down, 1; total, 2.

FOARD COUNTY
Wells Drilling
Atkins, Clark et al, 1.
Matthews, Fain-McGaha Oil Corporation et al, 1.
Watkins, The Texas Company, 1.
Wells drilling, 3; total, 3.

GRAYSON COUNTY
Rigs
Getzendaner, Miller Drilling Co. 1.
Wall, Simpson & Fell Oil Co. 2.
Rigs, 2; total, 3.

HARDEMAN COUNTY
Wells Drilling
Reeves, Milham Corporation, 1.

HASKELL COUNTY
Wells Drilling
Thompkins, Martin & Stewart, 1.

Shut Down
Reynolds, Moody Oil Corporation, 1.
Jetter, Subbie Oil Interests, 1.
Colbert, Wiert & York, 1.
Wells drilling, 1; wells shut down, 3; total, 4.

KNOX COUNTY
Wells Drilling
Coffman, Deep Rock Oil Co. 1.
Moore, Deep Rock Oil Co. 1.
Wells drilling, 2; total, 2.

M'CULLOCH COUNTY
Rigs
Dutton, Ragsdale et al, 2.

Wells Drilling
Dutton, Wakefield et al, 2.

Shut Down
Shelton, Brown & Shore, 1.
Kage, Dobbs & Kreis, 1.
Rigs, 1; wells drilling, 1; wells shut down, 2; total, 4.

PALO PINTO COUNTY
Rigs
Hart, Chestnut & Smith, 1.
Stuart, T. P. Coal & Oil Co. 155.

Wells Drilling
Mosely, American Legion, 1.
Taylor, French et al, 1.
Gilbert, Shaw, 1.
Wharton, Upham, 1.
Costello, Camp Oil & Gas Co. 1.
Rector, Leiser & Snebold, 1.

Shut Down
Gaylor, Clements, 1.
Dalton, Dalton Oil Co. 7.
Morgan, Orbit Drilling Co. 1.
Lane, Dixie Drilling Co. 1.
Perkins, Hughes et al, 1.
Hinkson, McGinley et al, 1.
Byer, Panhandle Refining Co. 1.
Hitson, Panhandle Refining Co. 1.
Weldon, Reinhart Brothers, 1.
Rigs, 2; wells drilling, 6; wells shut down, 9; total, 17.

PARKER COUNTY
Shut Down
Bell, Woold-Hats Oil Corporation, 1.

WISE COUNTY
Wells Drilling
Carter, Boonville Oil Co. 1.

TEXAS PANHANDLE

Summary of Wells Completed

County—	Comp.	Prod.	Dry	Gas
Carson County	8	580	0	3
Gray County	5	2,677	1	1
Hutchinson County	12	705	2	1
King County	2	0	2	0
Potter County	1	0	0	1
Sherman County	1	0	1	0
Wheeler County	4	28	1	2
Total Nov.	31	3,990	7	8
Total Oct.	46	10,320	12	14
Difference	15	6,330	5	6

Rigs and Wells Drilling

County—	Rigs	Drlg.	S.D.	Ttl.
Carson County	1	5	3	9
Gray County	14	38	6	58
Hutchinson County	6	19	10	35
Wheeler County	6	2	4	12
Miscellaneous County	7	15	32	54
Total Nov.	34	79	55	168
Total Oct.	27	68	81	176
Difference	7	11	26	8

CARSON COUNTY
Magnolia Petroleum Co. Fee, The Texas Company, 4 320
Burnett Estate, Empire Gas & Fuel Co. 4 ..... gas
J. C. McConnell-B, The Texas Company, 1 ..... gas
Burnett Estate, Empire Gas & Fuel Co. 5 ..... gas
Fee No. 244, Magnolia Petroleum Co. 5 220
E. Cooper, Stubblefield et al, 1 40

Completions 6
Production 580
Gas wells 3
Gas production 122,000,000

GRAY COUNTY
Crews, Amos et al, 1 10
Combs & Worley-C, Atlantic et al, 1.. gas
W. Jackson, Danciger et al, 1 1777
J. B. Bowers, Majestic Oil Co. 2 900
G. Cole, C. B. Shafer, 1 ..... dry

Completions 5
Production 2677
Gas wells 1
Gas production 1,509,000
Dry holes 1

HUTCHINSON COUNTY
Johnson Brothers-B, Empire Gas & Fuel Co. 7 ..... dry
Lee Bivins, Great Plains Oil Co. 1 .... gas
J. A. Whittenburg, Phillips Petroleum Co. & Gibson Oil Corp. 13 300
T. D. Lewis, The Texas Company, 8 .. 15
A. Yake, Anderson & Pritchard, 2 .... dry
J. M. Sanford-Mudget, Phillips Petroleum Co. 1 65
J. M. Sanford, Williams et al, 1 50
J. A. Whittenburg, Phillips Petroleum Co. & Coble Oil Co. 22 40
J. L. Moore, The Texas Company, 1.. 105
J. A. Whittenburg, Midwest Exploration Co. 7 20
J. A. Whittenburg, Midwest Exploration Co. 8 10

Completions 12
Production 705
Gas wells 1
Gas production 80,000,000
Dry holes 2

KING COUNTY
Burnett Estate, White Eagle Oil & Refining Co. 1 ..... dry
Frank Patton, Midwest Exploration Co. 1 ..... dry

Completions 2
Dry holes 2

POTTER COUNTY
Masterson-B, Amarillo Oil Co. 1 .... gas

SHERMAN COUNTY
S. F. Flores, Marland Oil Co. et al, 1.. dry

WHEELER COUNTY
M. E. Ackley, Piney Oil Co. 1 ..... gas
W. E. Bentley, Marland Oil Co. 2 28
Sorenson, Smith-Brady et al, 1 ..... dry
Fee, Hatcher et al, 1 ..... gas

Completions 4
Production 28
Gas wells 2
Gas production 1,000,000
Dry holes 1

CARSON COUNTY
Rigs
Chas. Kalka, The Texas Company, 1.

Wells Drilling
Burnett Estate, Empire Gas & Fuel Co. 6, 8.
C. R. Garner, The Texas Co. 2.
J. W. McConnell, Waggoner et al, 1
Burnett Estate, Willis et al, 1.

Shut Down
E. S. Polling, Amatex Development Co. 1.
J. L. Noel, Marston Oil Co. 1.
E. S. Polling, Navajo Oil Co. 1.
Rigs, 1; wells drilling, 5; wells shut down, 3; total, 9.

GRAY COUNTY
Rigs
Furneaux, Archer Blake, 1.
G. H. Saunders, Gardner et al, 1.
J. B. Bowers, The Texas Company Co. 1.
E. B. Johnson, Purple Sage Oil Co. 2.
B. E. McKinney, Remo Oil Co. 1.
C. W. Bradford, Skelly Oil Co. 1.
J. Hopkins, Spartan Oil Co. 1.
A. Chapman-A, Sullivan, et al, 1.
W. Jackson, Sun Oil Co. 1.
J. B. Bowers, The Texas Company, 3.
S. McLarty, The Texas Company, 1.
Combs & Worley, Wilcox et al, 2.
C. W. Bradford, J. Williams et al, 1.

Wells Drilling
A. Chapman, Amagray Oil Co. 1.
C. W. Bradford, Bay Shore Petroleum Co. 1.
W. Harrah, Camch Oil Co. 1.
W. Jackson, Danciger, et al, 2, 3, 4.
W. Jackson, Delaney Et al, 2.
E. J. Case, Edwards et al, 1.
B. J. George, Empire Gas & Fuel Co. 1.
J. F. Meers, Empire Gas & Fuel Co. 1.
J. B. Bowers-A, Gulf Production Co. 2, 3.
J. B. Bowers, Gibson Oil Corporation, 2.
B. E. McKinney, Guernsey Oil Co. 1.
J. Shaw, Lefors Petroleum Co. 1.
J. B. Bowers, Magnolia Petroleum Co. 1.
Merten Brothers, Magnolia Petroleum Co. 18.
J. B. Bowers, Majestic Oil Co. 6.
J. S. Morse, H. C. McCauley et al, 1.
J. B. Bowers, Midwest Exploration Co. 1.
Fee, Navillus Oil Co. 1.
J. B. Bowers, Operators' Oil Co. 2.
W. Jackson, Operators' Oil Co. 1.
W. Jackson, Phillips Petroleum Co. 1, 2, 3.
Jackson-Riley, Phillips Petroleum Co. 1, 2.
H. Davis, Pure Oil Co. 4.
M. Huselby, Rensaul Petroleum Corp. 1.
J. Back, Shamrock et al, 1.
W. Jackson, Skelly Oil Co. 1, 2.
J. B. Bowers, The Texas Company, 1, 2.
W. Brown, The Texas Company, 1.
A. Chapman, The Texas Company, 1.
G. H. Saunders, The Texas Co. 4.

Shut Down
J. E. Williams, Cole Oil & Gas Co. 1.
J. W. Gordon, Donley Gray Oil Co. 1.
A. Chapman, Nuedigate et al, 1.
W. R. Campbell, Pampa Oil Co. 1.
B. F. Talley, Staggers Oil Co. 1.
Helmes, Young et al, 1.
Rigs, 14; wells drilling, 38; wells shut down, 6; total, 58.

HUTCHINSON COUNTY
Rigs
Armstreng & Byrd, Skelly Oil Co. 2.
J. M. Sanford, Barnum et al, 1.
J. M. Sanford-Garland, Barnum et al, 1.
E. Cockrell-Dickson, Navajo Oil Co. 2.
E. Cockrell, R. J. W. Oil Co. 2.
E. Cockrell, Roxana Petroleum Corp. 3.

Wells Drilling
A. Yake, McMan Oil & Gas Co. 1.
Cal Merchant, Prairie Oil & Gas Co. & Vacuum Oil Co. 2.
Mrs. R. A. Jameson, Skyrocket Oil Co. 1.
J. M. Sanford, Gordan et al, 1.
E. Cockrell-Martin, McMan Oil & Gas Co. 4.
J. M. Sanford, Paramount Oil Co. 3.
Johnson Brothers-Hagey, Phillips Petroleum Co. 1.
J. M. Sanford-Chap, Phillips Petroleum Co. 1.
J. M. Sanford-State Land, Phillips Petroleum Co. 1.
Lee Bivins, Phillips Petroleum Co. & White Eagle Oil & Ref. Co. 1.
Burnett Estate-Clark, Prairie Oil & Gas Co. 1.
E. Cockrell, R. J. W. Oil Co. 1.
E. Cockrell, Roxana Petroleum Corp. 2.
E. Cockrell, Ryan Consolidated Oil Co. 1.
E. Cockrell-B, The Texas Company 1.
T. D. Lewis, The Texas Company, 2.
C. R. Garner, Timms et al, 1.
E. Cockrell, White & Lane, 1, 2.

Shut Down
J. M. Sanford, Antelope Creek Oil Co. 2.
E. Cockrell, Bean et al, 1.
F. F. Works, Big Coach Oil Co. 1.
J. M. Sanford, Canadian River Oil Co. 1.
E. Cockrell, El Reo Oil Co. 1.
Lee Bivins, Harris et al, 1.
E. Cockrell-Martin, McMan Oil & Gas Co. 3.
E. Cockrell-Dickson, Navajo Oil Co. 1.
J. A. Whittenburg-Elra, Phillips Petroleum Co. 12.
E. Cockrell, The Texas Company, 1.
Rigs, 6; wells drilling, 19; wells shut down, 10; total, 35.

WHEELER COUNTY
Rigs
J. W. Gordon, Clark et al, 1.
S. R. McDonald, Foster et al, 1.
Smock-Linkey, Rook & Angus, 1.
D. L. Morgan, The Texas Company, 2.
M. Ackley, Vaughan et al, 1.
J. Boyle, Pete Woodley, 1.

Wells Drilling
M. J. Williams, E. L. Arnold et al, 1.
W. S. Walker, Piney Oil Co. 1.

Shut Down
Johnson, Byrens et al, 1.
Pakan, Dobbs, 1.
H. C. Phillips, Gibson Oil Corporation, 7.
D. L. Morgan, The Texas Company, 1.
Rigs, 6; wells drilling, 2; wells shut down, 4; total, 12.

MISCELLANEOUS TEXAS PANHANDLE COUNTIES

ARMSTRONG COUNTY
Shut Down
E. D. Harrel, Meadows et al, 1.

BAILEY COUNTY
Rigs
Webb Miller, F. W. Waugh, 1.

Wells Drilling
W. H. Fuqua, Humble Oil & Refining Co. 1.
Rigs, 1; wells drilling, 1; total, 2.

CHILDRESS COUNTY
Shut Down
B. F. Smith, Continental Oil Co. 1.
B. F. Smith, C. L. Sloane, 1.
Wells shut down, 2; total, 2.

COTTLE COUNTY
Shut Down
Richards, The Exploration Company of Texas, 1.

DALLAM COUNTY
Wells Drilling
A. M. James, Marland Oil Company, 1.
Capital Syndicate, Marland Oil Co. 1.

Shut Down
Capitol Syndicate, H. Skelly et al, 1.
Wells drilling, 2; wells shut down, 1; total, 3.

DONLEY COUNTY
Shut Down
F. Harrington, A. Drilling Co. 1.

FLOYD COUNTY
Rigs
Nelson, Hoffer Oil Corp. 1.

Shut Down
Boone, The Exploration Co. of Texas 1.
Matador Land & Cattle Co., the Exploration Co. of Texas 1.
Rigs, 1; wells shut down, 2; total, 3.

HALE COUNTY
Shut Down
Thomas, Bailey & Young 1.
Mulligan, Engleking Drilling Co. 1, 2.
W. A. Ritcher, A. S. Mims, 1.
Crawford, Exploration Co. 1.
Crawford, Exploration Co. 1.
Kitteral, Tolbert & Simms 1.
Shut down, 7; total 7.

HANSFORD COUNTY
Shut Down
J. Adriance estate, Caldwell et al.
G. B. Coots, Oklavania Oil Co. et al 1.
Wells shut down, 2.

HARTLEY COUNTY
Wells Drilling
Lyman & Balfour, Deep Rock Oil Co. 1.
J. B. Irving, Eslick et al 1.
Wells drilling, 2; total, 2.

HEMPHILL COUNTY
Wells Drilling
H. E. Hoover, Hoover et al 1.

HOCKLEY COUNTY
Wells Drilling
Ellwood, World Oil Co. 1.

KING COUNTY
Wells Drilling
Pitchfork Land & Cattle Co., Humble Oil & Ref. Co. 1.

Shut Down
Frank Patton, J. L. Patterson 1.
Wells drilling, 1; shut down, 1; total, 2.

LAMB COUNTY
Rigs
Ellwood, Dan Freel et al 1.

Shut Down
Ellwood, Tolbert & Simms 1.
Rigs, 1; wells drilling, 1; total, 2.

LIPSCOMB COUNTY
Rigs
H. Frase, Ozark Drilling Co. 1.

Wells Drilling
C. W. Jones, Ruby Oil Co. 1.

Shut Down
R. C. Bradford, Calter Oil Co. 1.
Box T Ranch, Everett et al 1.
A. Barton, McCorkle 1.
Rigs, 1; wells drilling, 1; shut down, 3; total, 5.

LUBBOCK COUNTY
Wells Drilling
Bowles Ranch, Carter Oil Co. 1.

MOORE COUNTY
Wells Drilling
O. E. Gober, Prairie Oil & Gas Co. 2.

Shut Down
John Lowery, Shadler Brothers 1.
Wells drilling, 1; shut down, 1; total, 2.

MOTLEY COUNTY
Shut Down
Burleson, Exploration Co. of Texas 1.
Matador Land & Cattle Co., Exploration Co. of Texas 1.
Tillson, Explosion Co. of Texas 1.
C. W. Bird, Wheeler et al 1.
Wells shut down, 4; total, 4.

OCHILTREE COUNTY
Wells Drilling
Strickler, W. G. Burton 1.

Shut Down
A. E. Wamble, Hamilton et al 1.
R. H. Moore, McCorkle Pipe Line Co. 1.
Weinett, Montgomery 1.
Bowen, Standard Dev. Co. 1.
Wells drilling, 1; shut down, 4; total, 5.

OLDHAM COUNTY
Wells Drilling
Landergin, Prairie Oil & Gas Co. 1.

POTTER COUNTY
Rigs
Lee Bivins, Prairie Oil & Gas Co. 1.
W. H. Bush, Frank Allen et al 1.
Rigs, 2; total, 2.

ROBERT COUNTY
Wells Drilling
Lederick et al, Big Bend Oil Co. 1.

SHERMAN COUNTY
Wells Drilling
Lee Bivins, Gibson Oil Corp. 1.

Shut Down
Price & Fuqua, Phillips Pet. Co. & Prairie Oil & Gas Co. 1.
Wells drilling, 1; shut down, 1; total, 2

EASTERN FIELDS

Summary of Wells Completed

Field—	Comp.	Prod.	Dry	Gas
Allegany	41	63	0	0
Bradford	115	291	0	0
Middle Field	6	26	0	0
Venango-Clarion	23	17	1	7
Butler-Armstrong	12	3	4	4
S. W. Pennsylvania	27	49	4	18
West Virginia	81	268	22	36
S. E. Ohio	82	927	25	21
Total November	387	1,644	56	86
Total October	358	1,350	34	65
Difference	29	294	22	21

Summary of Work Under Way

Field—	Rigs	Drlg.	Ttl.
Allegany	10	32	42
Bradford	16	69	85
Middle Field	0	5	5
Venango-Clarion	2	19	21
Butler-Armstrong	5	9	14
S. W. Pennsylvania	7	26	33
West Virginia	34	136	170
S. E. Ohio	20	84	104
Total November 30	94	380	474
Total Oct. 31	115	373	488
Difference	21	7	14

SOUTHEAST OHIO WELLS COMPLETED

MONROE COUNTY
Jeyes, Yester & Co. 1 ..... dry
Nubeck, Walker & Co. ..... dry
Hogue, Baker & Co. 1 5
Rinehart, Summerset Oil Co. 1 ..... dry

PERRY COUNTY
Hutchinson, Hutchinson O. & G. Co. 3.. dry
Tedrow, Davis Melick, trustee 1 19
Starcher, Glendale O. & G. Co. 1 ..... dry
Bennett, Cline & Co. 2 35
Bowers, Cline & Co. 1 339
Roush, Sturm & Co. 1 ..... gas
Moore, Pure Oil Co. 1 60

HOCKING COUNTY
Horn hrs, Gordon Oil Co. 1 5
Riggs, Riggs O. & G. Co. 1 ..... dry
Lane, Lime Light O. & G. Co. 2 ..... gas
McGlaughlin, Wallsmith & Co. 1 ..... dry
Tracey Est., Kachelmacher etc. 26 125
Roane, Roane O. & G. Co. 1 ..... dry
Ralston, Columbus parties 2 ..... dry

GUERNSEY COUNTY
Wigginston, Ohio F. S. Co. 1 160
Lanning, Jewell & Co. 1 10
Joyce & Co., Leonard O. & G. Co. 4 ... 40
Riddle, Mack Smith & Co. 1 ..... dry
Ridgley, Pure Oil Co. 1 25

HOLMES COUNTY
Sandless, Kemrow Co. 3 ..... gas
Snow, East Ohio Gas Co. 1 ..... dry
Manchester, Ohio F. G. Co. 1 ..... gas
Watt, Empire G. & F. Co. 2 3
Collins, Empire F. & F. Co. 1 10
Miller, Ohio Fuel O. Co. 1 ..... gas
Moore, Ohio Fuel O. Co. 1 ..... dry
D. & M. Moore, East Ohio Gas Co. 1 .. dry
Mosier, Ohio F. S. Co. 1 ..... dry

LICKING COUNTY
McCann, Pure Oil Co. 1 ..... dry
Livingston, Ohio F. S. Co. 2 12
Howell, Hope C. & R. Co. 1 60
Fleming, Hope C. & R. Co. 1 35
Howell 34-A, Ark. Fuel Oil Co. 1 2
Howell 34-A, Ark. Fuel Oil Co. 2 3
VanWinkle, Goshen Oil Co. 6 5

MUSKINGUM COUNTY
Wence, San Oil Co. 1 ..... dry

NOBLE COUNTY
Moreland, Mosley & Co. 5 ..... dry
Young, Robinson & Co. 2 3
Lovett, Lovett & Co. 22 ..... gas
Rober, Young & McKibben 1 1
Feldner, Sailing & Co. 1 ..... gas

ATHENS COUNTY
State Lands, Athens State O. & G. Co. 8 5
Maxwell, The Wehrle Co. 2 2
Farhart, Watkins O. & G. Co. 4 5
Cassels, Ronhausen & Co. 3 ..... gas
Cassels, Ronhausen & Co. 2 ..... gas
Chapman, Ronhausen & Co. 5 ..... gas

MORGAN COUNTY
James, Lisbon O. & G. Co. 9 ..... gas
Anderson, Rev. D. Lang 28 ..... gas
Huffman, Kemrow Co. 2 ..... gas
Archer, Morgan O. & G. Co. 8 ..... gas
Buckley, McLaughlin & Co. 19 ..... dry
Buckley, McLaughlin & Co. 20 50
Fitch, McLaughlin & Co. 17 ..... dry
Barhurdt, Penn O. & G. Co. 1 ..... gas
Ellis, The Kemrow Co. 1 ..... gas
Wood, The Kemrow Co. 1 ..... gas
Finsterwald, O. C. Dunn 16 1
Lafferty, Smith & Co. 1 ..... dry

MEIGS COUNTY
Roush, Summer O. & G. Co. 5 ..... gas
Handschelt, Koehler & Miller 4 1
Yost, Calderwood & Co. 1 ..... gas
Sweringer, Calderwood & Co. 2 ..... gas
Hisel, Bailey Oil Co. 2 ..... gas

WASHINGTON COUNTY
Mendenhall, Bank of Marietta 39 ..... dry
Hood, Hood & Co. 3 ..... dry
Caldwell, Miracle Oil Co. 2 1
Coffman, Palmer & Co. 5 2
Hall, Oneida Oil Co. 1 ..... dry
Groves, Hess & Sons 1 ..... dry
Ward, Carner & Co. 1 1

BELMONT COUNTY
Graham, Dysart Oil Co. 1 ..... dry
Warren, N. G. Co. of W. Va. 6 10
Wheeler, Powell & Co. 2 2

JEFFERSON COUNTY
Stroud, Palmer & Co. 1 25
Kellenmire, Turner & Co. 12 2
Crawford, Williams & Co. 2 1

COLUMBIANA COUNTY
Benner, Renner-Deibel Co. 20 2

Wells completed 82
Production 927
Dry 25
Gas 21

MONROE COUNTY
Well Drilling
Haught, American Oil Co. 1.

PERRY COUNTY
Ditto, Planet O. Co. & Co. 7.
Timmins Coal Co., Cline & Co. 3.
Wells Drilling
Hutchinson, Baughman & Co. 1.
West, Hope C. & R. Co. 3.
Thorp, Adair & Co. 1.
Spring, David Melick, trustee 1.
Bateson, Cline & Co. 1.
Tague hrs. Pure Oil Co. 3.
Mooney, Pure Oil Co. 1.
Teal, Wehrle & Co. 1.

HOCKING COUNTY
Rigs
Lemen, Tucker & Co. 1.
Clark hrs, Clark Oil Co. 1.
Duffy, Duffy O. & G. Co. 1.
Wells Drilling
Lockhart, Preston Oil Co. 3.
Tracey est, Kachelmacher est. 27.
M. W. B. & C. Co., Orndoff & Co. 1.
H. V. P. Co., Chartiers Oil Co. 206, 207.

GUERNSEY COUNTY
Rigs
Fulton, Ohio F. S. Co. 2.
Joyce & Co., Leonard O. & G. Co .7.
Ridgley, Pure Oil Co. 4.
Wells Drilling
McCourt, Ohio F. S. Co. 7.
Slabie, Mack Smith & Co. 6.
Joyce & Co., Leonard O. & G. Co. 5, 6.
Micha, Davis Bros. Co. 2, 3.
Dunning, Blackstone & Co. 1.
Watson, Watson & Co. 4.
Ridgley, Pure Oil Co. 2, 3.
Kerr, Cambridge Oil Co. 1.

HOLMES COUNTY
Rigs
Garver, East Ohio Gas Co. 2.
Jones, Ohio Oil Co. 1.
Shuler, Palmer & Co. 3.
Wells Drilling
Allison, Kemrow Co. 2.
Moore, East Ohio Gas Co. 1.
Mullett, Kemrow Co. 1.
P. Mullett, Kemrow Co. 1.
Nethrew, Empire G. & F. Co. 6.
Williams, East Ohio Gas Co. 2.
Bird, Empire G. & F. Co. 1.
Marin, Empire G. & F. Co. 2.
Dalrymple, East Ohio Gas Co. 1.
Strang, East Ohio Gas Co. 1.
Scott, Hall & Co. 1.
Kaylor, Ark. F. Oil Co. 1.
Strang & Co., East Ohio Gas Co. 1.

LICKING COUNTY
Rigs
Phillips, Hope C. & R. Co. 5.
McKnight, Hope C. & R. Co. 2.
Smith, Hope C. & R. Co. 1.
McKnight, Hope C. & R. Co. 1.
Fulton, G. H. Long 1.
Shuk, Fink & Co. 1.
Wells Drilling
McKnight, Hope C. & R. Co. 1.
Cochrane, Murphy & Co. 1.
Vance, Wehrle Co. 12.
Davis, Helsey Co. 2.
VanWinkle, Hoshen Oil Co. 7.

COSHOCTON COUNTY
Rigs
McKee, Spindler, Donlon & Co. 4.
Arnold, Mill Creek Oil Co. 8.
Wells Drilling
Moore, Trinway O. & G. Co. 1.
Snow, Empire G. & F. Co. 1.
McKelvey, Empire G. & F. Co. 3.

FAIRFIELD COUNTY
Wells Drilling
Alfred, Alfred & Co. 1.
Grove, Ruff, Stewart & Co. 1.
Whitehill, Fenkher Bros. & Co. 1.

MUSKINGUM COUNTY
Well Drilling
Ashmore, Hunter-Athey Co. 1.

NOBLE COUNTY
Wells Drilling
Harding, Ohio F. S. Co. 1.
Stein hrs, H. A. Hendershot 5.
Creek, Wickens & Co. 3.

ATHENS COUNTY
Wells Drilling
Beekley, Cooperative O. Co. 5.
Woodyard, Cook & Co. 2.
Allen, The Wehrle Co. 1.

MORGAN COUNTY
Wells Drilling
James, Lisbon O. & G. Co. 10.
Kennard, Rev. Davis Lang 2.
Syphors, Morgan O. & G. Co. 2.
Ellis, The Kemrow Co. 1.
Wallace, Lisbon O. & G. Co. 1.
Huffman, Bowman O. & G. Co. 3.
Blass, Fox & Co. 2.
Gardner, Orndoff & Co. 1.
Mosier, Hallowell & Co. 1.
Hopkins, Cumberland Oil Co. 1.

MEIGS COUNTY
Rig
Hysell, Dailey Oil Co. 3.
Wells Drilling
Davis, Ohio F. S. Co. 1.
Mitchell, Pure Oil Co. 1.
Copehart, Southern Ohio Gas Co. 5
Burdette & Co., Coal Hollow O. & G. Co. 5.

WASHINGTON COUNTY
Wells Drilling
Parsons, Reckard Jr. Co. 1.
Green, Bank of Marietta 31.
Oliver, Hill Top O. & G. Co. 2.
Bergen, Peoples B. & T. Co. 20.
McKitrick, Herlan & Co. 1.
Weeks hrs, Shanklan Bros. 1.
Palmer, Weir & Schramm 1.

JEFFERSON COUNTY
Wells Drilling
Lee, Sutton Bros. 1.
Groves & Co., Boyce & Co. 15.

CARROLL COUNTY
Wells Drilling
Harrington, N. G. Co. of W. Va. 2.
Dorence hrs, Brown, Vorhees & Co. 1.
Harding, Eaton & Co. 5.
Slates, Eaton & Co. 8.
Rigs, 20; wells drilling, 84; total, 104.

WEST VIRGINIA
WELLS COMPLETED
LEWIS COUNTY
M. E. Parsonage lot, Moran Bros. Co. 1 gas
HARRISON COUNTY
Bramer, Clarksburg L. & H. Co. 3 3
Gore hrs, Clarksburg L. & H. Co. 8 .. gas
MARION COUNTY
Tennant, Hope Gas Co. 1 ..... gas
Mayfield, V. Tennant 1 ..... gas
Lambert, H. Tennant 1 ..... gas
Grim, Buffalo Oil Co. 1 40
Tennant, So. P. O. Co. 4 ..... gas
Campbell, So. P. O. Co. 8 ..... gas
MONONGALIA COUNTY
Talkington, Carnegie Gas Co. 1 ..... gas
WETZEL AND TYLER COUNTIES
Wade, Carnegie Gas Co. 1 1
J. Wade, Carnegie Gas Co. 1 ..... dry
Grim hts., Morehead & Co. 1 ..... dry
Long, Hope C. & R. Co. 1 ..... gas
Lemaster, So. P. O. Co. 15 5
Henderson, Little Flower Oil Co. 4 .. 15
Shuman, Sutton Bros. 1 60
Garrison, Albert Neely 1 ..... gas
MARSHALL COUNTY
Newman, Wood & Co. 1 ..... dry
Campbell, Denver Oil Co. 1 ..... dry
DODDRIDGE COUNTY
Roberts, Keyston Oil Co. 2 5
Maxwell, Columbia Carbon Co. 2 ..... dry
Oberlin College, So. P. O. Co. 4 1
Davis, Carnegie Gas Co. 1 ..... gas
RITCHIE COUNTY
Wanstreet, Pgh. & W. Va. Gas Co. 1 .. gas
Cox, Ira D. Cox 3 ..... gas
Moore, Braden & Co. 1 ..... dry
McCosh hrs., Wilson & Co. 1 ..... dry
Collins, Hope Gas Co. 1 ..... gas
W. Va. Tract, Wyatt & Co. 12 5
Stursburg Realty Co., Astron Oil Co. 7 10
Dean, Trainer & Co. 5 ..... dry
Wilson, So. P. O. Co. 8 ..... dry
Wilson, So. P. O. Co. 9 30
Hill, Hope C. & R. Co. 2 ..... dry
Tingler, Deem & Co. 2 ..... gas
CLAY COUNTY
Phillips, So. P. O. Co. 4 20
Phillips, So. P. O. Co. 5 25
Summers, Virginian G. & O. Co. 4 20
King, Grace O. & G. Co. 7 ..... gas
GILMER COUNTY
Carr, Hope C. & R. Co. 1 ..... dry
Davis hrs, Creed Barker 1 ..... gas
Bell, Roberts & Co. 3 ..... gas
BRAXTON COUNTY
Bourne, Pgh. & W. Va. G. Co. 1 .... dry
WIRT COUNTY
Rathbone Oil Tract, Roberts Bros. 155 1
Rathbone Oil Tract, Roberts Bros. 156 1
WOOD COUNTY
Vaughn, S. L. Anderson 1 ..... dry
Dye, So. P. O. Co. 1 1
Shuttack, So. P. O. Co. 23 5
PLEASANTS COUNTY
Morgan, Morgan & Co. 1 ..... dry
Graham hrs, C. E. Park 2 ..... dry
Templeton, Ambler Oil Co. 6 ..... dry
Oliver, Oliver Oil Co. 1 ..... dry
Pethtel, Bailey Gas Co. 1 ..... dry
Bier, Mitchell & Co. 1 3
ROANE COUNTY
Tallman, Heck Oil Co. 2 15
Vandale, Heck Oil Co. 1 1
Hildreth, G. L. Cabot 1..... gas
CALHOUN COUNTY
Strums, M. F. Crowley 2 6
Basnett, B. J. Crowley 1 ..... gas
Wilson, Lewis & Co. 1 ..... gas
Brannon, Calhoun O. & G. Co. 1 ..... dry
Starcher, Smith & Starcher 1 ..... gas
Slider, F. F. McIntosh 2 ..... gas
Morgan-Fox, F. F. McIntosh 1 ..... gas
Marshall, Carnegie Gas Co. 2 ..... dry
Stump, Hope C. & R. Co. 1 ..... gas
JACKSON COUNTY
Parsons, Ravenwood Oil Co. 1 ..... dry
Rardon, Morford & Co. 1 ..... dry
LINCOLN COUNTY
Sweetland, L. R. Sweetland 25 ..... gas
Weblin, L. R. Sweetland 24 ..... gas
Kingery lot, W. C. Kingery Gas Co. 1.. gas
Cooper, Ray & Son 3 ..... gas
Vandelinde, Wysong & James 2 ..... gas
KANAWHA COUNTY
Snyder, U. F. G. Co. 1 ..... gas
MINGO COUNTY
Logan Cannel C. Co., Old Colony O. & G. Co. 26 ..... gas
Closterman estate, Old Colony O. & G. Co. 16 ..... gas
CABELL COUNTY
Finley, U. F. G. Co. 1 ..... gas
Hatfield, Aetna O. & G. Co. 1 ..... gas
Alberts, Pgh. & W. Va. G. Co. 1 ..... gas

WAYNE COUNTY
Ferguson, Chartiers Oil Co. 1 ..... gas

Wells completed 81
Production 268
Dry 22
Gas 36

LEWIS COUNTY
Wells Drilling
Summers, So. P. O. Co. 6, 7.

HARRISON COUNTY
Rig
Furner, Furno Oil Co. 7.
Well Drilling
Smith Bros., Reserve Gas Co. 1.

MARION COUNTY
Wells Drilling
Morgan & Co., So. P. O. Co. 5.
Brock, V. Tennant 1.
Eddy, Carnegie Gas Co. 1.
Valentine, Owens B. & M. Co. 1.
Prickett, Mark Bell O. & G. Co. 1.
Arnett, C. L. Norris 1.
Tennant, Monroe & Laughlin 1.
Koen, Clifton O. & G. Co. 4.

MONONGALIA COUNTY
Wells Drilling
Efaw, Mfrs. L. & H. Co. 3.
Tennant, Mfrs. L. & H. Co. 2.
Tennant, Carnegie Gas Co. 1.

WETZEL AND TYLER COUNTIES
Rigs
Eddy, McIntyre Prod. O. Co. 1.
Hoge, So. P. O. Co. 3.
Morgan & Co., Snyder & Co. 1.
Wells Drilling
Miller, Carnegie Gas Co. 1.
Miller, Hope C. & R. Co. 1.
Wycoff, Carnegie Gas Co .1.
Price, Shimwell O. & G. Co. 1.
White, So. P. O. Co. 1.
Hixenbaugh, Mfrs. L. & H. Co. 3.
Petty, Maxon Oil Co. 1.
Maple, S. N. Elliott 5.
Morgan, Carr Bros. 1.
Schamp, Scap & Co. 1.

MARSHALL COUNTY
Rigs
Williams, Marshall & Preston O. Co. 1.
Downey, Mfrs. L. & H. Co. 2.
Well Drilling
Fry, Mfrs. L. & H. Co. 2.

DODDRIDGE COUNTY
Rigs
Maxwell, Trainer & Co. 1.
Willis, So. P. O. Co. 1.
Wells Drilling
Chipps, Elkhorn O. & G. Co. 1.
Minear, Nay & Nowlton 1.
Singer, Jas. Poling 1.

RITCHIE COUNTY
Rigs
Wright, W. A. Bickerstaff 1.
Lawrence, Hope Gas Co. 2.
McCullough, W. J. McCullough 3.
Cochrane, J. G. Cochrane 1.
Wilson, So. P. O. Co. 11.
Douglas, Southern Oil Co. 2.
Wells Drilling
Hall, Britton & Co. 1.
Prichard, F. E. Prichard 1.
McClay, S. W. Young 1.
Smith hrs, Deem Bros. & Co. 3.
Hickman hrs, Junior Oil Co. 1.
Tennant, J. G. Charter 1.
Barker, Morgan & Co. 1.
Jordan, Hope C. & R. Co. 2.
Bickerstaff, So. P. O. Co. 4.
Wilson, So. P. O. Co. 11.
McGregor hrs, Cochrane & Hayes 3.
Kirby, O'Dea Est. & Co. 1.
Berks, So. P. O. Co. 1.
Wilson, So. P. O. Co. 10.
Jordon & Co., Hope C. & R. Co. 3.

CLAY COUNTY
Rigs
Stockly, So. P. O. Co. 65.
B. S. G. & S., Virginian G. & O. Co. 21.
B. S. & B., Virginian G. & O. Co. 2.
Wells Drilling
Stockly, So. P. O. Co. 65.
Reed & Co., Ohio Fuel O. Co. 5.
Lockhart Tract, Virginian G. & O. Co. 15.
Salsbury, Mamock & Co. 4.
Bowman, Stevenson & Co. 2.

GILMER COUNTY
Rigs
Tierney, James Tierney 3.
Wilt, Hope C. & R. Co. 1.
K. Wilt, Hope Gas Co. 1.
Wells Drilling
Davis, Satterfield & Co. 1.
Barker, Morris & Co. 1.

BRAXTON COUNTY
Rigs
Fisher, Pgh. & W. Va. G. Co. 1.
Cook, Pgh. & W. Va. G. Co. 1.
Parkersburg Mill Co., Pgh. & W. Va. G. Co. 1.
Well Drilling
Howell, Pgh. & W. Va. G. Co. 1.
WIRT COUNTY
Wells Drilling
Peppers hrs, So. P. O. Co. 1.
Vernon-Donoho, W. C. Patterson 31.

WOOD COUNTY
Rig
Masters, So. P. O. Co. 2.
Wells Drilling
Bills, B. R. Crippen 1.
Goff, Peter Smith 1.
Upton, I. Connelly 1.
Ralston, Sweeny & Nelson 2.
Dye, So. P. O. Co. 2.
McPeak, Davis Oil Co. 1.

PLEASANTS COUNTY
Wells Drilling
Farson, American Oil Co. 1.
Holden, Swingle Bros. 1.
Sharp, Sharp Farm O. Co. 1.
Reynolds & Co., So. P. O. Co. 17.
Smith, Riggs & Brown 4.

ROANE COUNTY
Rigs
Cummings, Clifton O. & G. Co. 2.
Polly, Chartiers Oil Co. 1.
Smith, G. L. Cabot 2.
Rogers, U. F. G. Co. 1.
Allen, Jackson & Sun O. Co. 1.
Wells Drilling
Allen, Heck Oil Co. 1.
Stockly, So. P. O. Co. 62.
Smith, G. L. Cabot 1.
Edgen, Morley O. & G. 1.
McKin, United Carbon Co. 2.
Drake, U. F. G. Co. 1.
Wright, U. F. G. Co. 1.
Allen, U. F. G. Co. 1.
Bogge, U. F. G. Co. 1.
Coe, U. F. G. Co. 1.
Harless, G. L. Cabot 1.
Horner, National Gas Co. 1.
Parsons, Ravenwood O. Co. 1.
Starr, G. L. Cabot 1.

CALHOUN COUNTY
Rigs
Yeak, Hope C. & R. Co. 1.
Trippett, Sycamore Fuel Co. 1.
Lynch, Kingsbury & Dollman 2.
Wells Drilling
Hardman, Hope C. & R. Co. 2.
Mollahan, Star Creek O. & G. Co. 1.
Craddock, G. L. Cabot 1.
Nitz, Calhoun O. & G. Co. 1.
Robinson, Dailey & Son 1.
Kight, W. H. Bickel 1.
Bennett, Hope C. & R. Co. 1.
Grover, Hardman & Co. 1.
Nicholson, G. L. Cabot 1.
Kelly hrs, McCall & Co. 1.
Haymaker, McIntosh & Scott 1.
Sheck, McIntosh & Miller 2.

LOGAN COUNTY
Wells Drilling
Peck hrs, Peck O. & G. Co. 1.

LINCOLN COUNTY
Rigs
Roberts, Columbia G. & E. Co. 1.
Gillenwater, U. F. G. Co. 1.
Wells Drilling
Sweetland, L. R. Sweetland 26, 27.
Burrett, Ray Gas Co. 4.
Sias, Roy & McComas 3.
Oxley, Col. G. & E. Co. 1.
Rehler, J. B. Reishman 2.
Stevers, Ray & Son 1.
Atkins, Mud River Gas Co. 1.

BOONE COUNTY
Wells Drilling
Williams Coal Co., Pure Oil Co. 23, 234.
Brown, Owens B. & M. Co. 1.
Cassingham & Co., Owens B. & M. Co. 13.

MINGO COUNTY
Wells Drilling
Caldwell, Old Colony O. & G. Co. 2.
Logan Cannel C. Co., Old Colony O. & G Co. 26.
Closterman Est., Old Colony O. & G. Co. 17, 18.

CABELL COUNTY
Rig
Simpson, W. Va. Gas Corp. 1.
Wells Drilling
Harshbarger, Big Two Mile Gas Co. 3.
Clark, Zogg O. & G. Co. 1.
Lewis, Aetna O. & G. Co. 1.
Morrison, W. Va. Gas Corp. 1.

PUTNAM COUNTY
Wells Drilling
Mitchell, Hurricane O. & G. Co. 1.
Finley, Tampico O. & G. Co. 1.
Rigs, 34; wells drilling, 136; total, 170.

SOUTHWEST PENNSYLVANIA
Wells Completed
WASHINGTON COUNTY
Patterson, Mfrs. L. & H. Co. 2 ..... gas
Leonard, Wasco Gas Co. 1 1
Scenery Hill lot, Benedum & Trees 1 .. gas
Scenery Hill lot, Benedum & Trees 1 .. gas
Scenery Hill lot, Fletcher & Co. 1 .... gas
Scenery Hill lot, Dr. Ritter & Co. 1 .. gas
Scenery Hill lot, Roy Fletcher & Co. 1 gas
Hill, Benedum & Trees 3 ..... gas
Hess, Hessinger & Jordan 1..... gas
Nichols, Carnegie Gas Co. 1 ..... dry
ALLEGHENY COUNTY
Hannah, Martin & Co. 1 ..... gas
Getty, Getty & Co. 2 4
Hardt, C. Hardt 2 ..... gas
BEAVER COUNTY
Bayless, Laughner O. & G. Co. 1 ..... gas
Hites, Abram & Co. 2 2
GREENE COUNTY
Blaker, Carnegie Gas Co. 1 ..... gas
Fosmard, Peoples Gas Co. 1 ..... gas
Lemley, Moore-Tex O. & G. Co. 1 35
Yeager, Carnegie Gas Co. 1 ..... gas
Sellers, M. & H. O. & G. Co. 1 ..... gas
Snider, Snider O. & G. Co. 1 5
Johnson, Waynesburg Gas Co. 2 ..... dry
Seals, Mfrs. L. & H. Co. 1 ..... gas
Iams, Mfrs. L. & H. Co. 1 ..... dry
Sprouls, Sutton & Co. 1 ..... gas
Patterson, Carnegie Gas Co. 1 ..... dry
Clutter, Carnegie Gas Co. 1 ..... gas

Wells completed 27
Production 49
Dry 4
Gas 18

WASHINGTON COUNTY
Rig
Swager, Peoples Gas Co. 1.
Wells Drilling
Vail lot, Ross & Conklin 1.
Scenery Hill lot, Haywood & Bigerton 1.
Linn, Ellsworth & Co. 1.
Kinder, Carnegie Gas Co. 2.
Brownson, Peoples Gas Co. 1.
Cooper, Emerald Pet. Co. 2.

ALLEGHENY COUNTY
Rigs
Wolf, J. C. Nock 4.
Steigerwald, Beeler & Co. 1.
Wells Drilling
Cook-Guyser, Cook & Guyser 1.
Kale hrs, Link & Co. 2.

BEAVER COUNTY
Well Drilling
Dawson, P. R. Laughlin 1.

GREENE COUNTY
Rigs
Ammons, Phila. Gas Co. 1.
Pethtel, Peoples Gas Co. 1.
Sellers, M. & H. O. & G. Co. 1.
Rutan, Carnegie Gas Co. 1.
Wells Drilling
Fordyce, Carnegie Gas Co. 2.
Wilson, Carnegie Gas Co. 1.
Fox, Phila. Gas Co. 1.
Zimmerman, Phila Gas Co. 1.
Fox, Peoples Gas Co. 2.
Longanecker, J. L. Garad 5.
Brown, Orndoff & Co. 1.
Cole, Phila. Gas Co. 1.
Fordyce, Clovis & Co. 2.
Yeager, Myers & Long 1.
Cooper, Boundy Bros. & Co. 1.
Snider, Morehead & Co. 1.
Ray, Nuss & McCloy 1.
Clutter, Nuss & McCloy 2.
Baldwin, Carnegie Gas Co. 2.
McNeely, Carnegie Gas Co. 1.
Rigs, 61; wells drilling, 246; total, 307.

CENTRAL OHIO

Summary of Field Operations

District—	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Knox	2	0	0	2	1	2	3
Ashland	6	0	4	2	8	7	15
Medina	7	36	3	0	1	3	4
Lorain	3	0	0	3	1	4	5
Wayne	3	0	1	2	0	6	6
Holmes	6	15	2	2	2	10	12
Coshocton	2	0	0	2	3	4	7
Cuyahoga	11	5	0	10	1	15	16
Jackson	1	0	0	1	0	0	0
Summitt	1	0	1	0	0	2	2
Muskingum	1	0	1	0	0	0	0
Richland	0	0	0	0	0	1	1
Starke	0	0	0	0	0	2	2
Guernsey	8	0	1	7	0	7	7
Gallia	1	0	0	1	2	1	3
Lawrence	0	0	0	0	0	1	1
Fairfield	1	0	0	1	0	1	1
Total Nov...	53	56	13	33	19	66	85
Total Oct. ..	36	180	6	24	12	73	85
Difference..	17	130	7	9	7	7	0

WELLS COMPLETED

KNOX COUNTY

Jefferson—Alvin Melton, E. Ohio Gas 1 gas
A. F. Zimmerman, Ohio Fuel Gas 1.. gas

Wells completed 2
Gas 2

ASHLAND COUNTY

Orange—Clayton Harmon, The Logan Gas 2 ..... dry
Hanover—David F. Fay, The Logan Gas 1 ..... gas
Sullivan—Ross Langford, The Logan Gas 2 ..... gas
Clear Creek—Roy Dreher, Hultz & Kuntz 1 ..... dry
Troy—Ray Arnold, Hulse & Kuntz 1.. dry
Ray Arnold, Arnold, Buffenmeyer & Devore 1 ..... dry

Wells completed 5
Dry 4
Gas 1

MEDINA COUNTY

Lafayette—Paul Rerto, M. C. & G. K. Rogers 1 ..... dry
Medina—C. L. White, Empire Gas & Fuel 2 ..... dry
Chatham—T. W. Brinker, Oko O. & G. 15 30
Brinker, lot 10, Oko O. & G. 28..... 2
L. A. & S. E. Brinker, Johnson & McBrath 1 2
W. P. Wer.z, E. R. Edson & Son 36 2
W. P. Wertz, E. R. Edson & Son 37 dry

Wells completed 7
Oil wells 4
Production, Oil 36
Dry 3

LORAIN COUNTY

Columbia—J. K. Fitch, Ohio Fuel Gas 1 gas
J. & H. Longbon, Ohio Fuel Gas 1.. gas
J. H. Bartter, Ohio Fuel Gas 1.... gas

Wells completed 3
Gas 3

WAYNE COUNTY

Chester—H. P. Gable, Harmon & George 1 ..... gas
Congress—J. C. Cline, The Logan Gas 1 gas
Chippewa—John Weintzheimer, East Ohio Gas 1..... dry

Wells completed 3
Dry 1
Gas 2

HOLMES COUNTY

Hardy—William Watts, Empire Gas & Fuel 2 5
Phillip Collier, Empire Gas & Fuel 1 10
Kilbuck—William Sanders, The Kemrow Co. 3 ..... gas
D. N. Snow, East Ohio Gas 1..... dry
Knox—Daniel Mosier, The Logan Gas 1 dry
Richland—Malissa Manchester, The Logan Gas 1..... gas

Wells completed 6
Oil wells 2
Production, oil 15
Dry 2
Gas 2

COSHOCTON COUNTY

Newcastle—Cassingham, Cassingham & Bell Bros. 19, 20..... gas

Wells completed 2
Gas 2

CUYAHOGA COUNTY

Dover—Harrison, J. W. Cushing 2..... gas
Strongville—J. W. Dorsey, E. Ohio Gas 5
Middleburg—Otto Lizzy, M. E. & S. K. Rogers 1 ..... gas
Olmstead—H. S. Nelson, Arthur & Simpson 1 ..... gas
A. R. Kirk, Arthur & Simpson 1..... gas
M. Standen, Hulse & Kundtz 1..... gas
O. J. Paddock, Hulse & Kundtz 2.. gas
G. G. Kennedy, Hulse & Kundtz 1.. gas
M. Paddock, Merkle & Harrison 1.. gas
W. D. Camp, Merkle & Harrison 4 ... gas
W. D. Camp, H. McClellan 1..... gas

Wells completed 11
Oil wells 1
Production, oil 5
Gas 10

JACKSON COUNTY

Franklin—Jennison, Unknown 2..... gas

SUMMITT COUNTY

Richland—C. J. Neil, John Arthur 1.... gas

MUSKINGUM COUNTY

Madison—W. C. Copeland, Logan Gas 1. dry

GUERNSEY COUNTY

Monroe—Braniger, Birmingham Oil & Gas 2, 3, 5..... gas
Edinburn, Birmingham O. & G. 2, 3, 4 gas
Braniger, Birmingham O. & G. 4.... dry
Tobin lot, Ohio Fuel Gas 1..... gas

Wells completed 8
Dry 1
Gas 7

GALLIA COUNTY

Addison—Mary Grover, Gordon Oil 1.. gas

FAIRFIELD COUNTY

Rush Creek—James C. Grove, Ruff-Stewart Oil 1..... gas

KNOX COUNTY

Rig

Clay—Jerry Foss, Guerney & Co. 1.

Wells Drilling

Jefferson—Michael Strong, East Ohio Gas 1.
M. H. Adrian, Upham Gs 1.
Rigs, 1; wells drilling, 2; total, 3.

ASHLAND COUNTY

Rigs

Hanover—W. B. Cookley, Ohio Fuel Gas 1.
Sullivan—J. A. Spencer, The Kemrow Co. 5.
Clear Creek—Hulda Shaw, The Logan Gas 1.
School house lot, Ringler & Co. 1.
Eliza Blatdorf, Faulkner & Co. 1.
Green—Martin Trumpower, Logan Gas 1.
Jacob Kettering, Ohio Fuel Gas 1.
Troy—R. H. Hartsmiller, Hulse & Kundtz 1.

Wells Drilling

Orange—E. H. Kestner, Ohio Fuel Gas 1.
Sullivan—J. M. Slack, Hulse & Kundtz 1.
Clear Creek—J. C. Farquarson, Ringler & Co. 1.
W. H. Heiffner, Ringler & Co. 1.
J. E. Ringler, The Kemrow Co. 1.
James W. Shaw, The Logan Gas 2.
Troy—S. L. Markel, The Logan Gas 1.
Rigs, 8; wells drilling, 7; total, 15.

MEDINA COUNTY

Rigs

Lafayette—John H. Grimm, Ohio Fuel Gas 1.

Wells Drilling

Lafayette—Leon J. Reynolds,. Ohio Fuel Gas 2.
Liverpool—George Demling, Logan Gas 1.
Hinckley—A. W. Hill, Ohio Fuel Gas 1.
Rigs, 1; wells drilling, 3; total, 4.

LORAIN COUNTY

Rigs

Columbia—L. D. & J. Richards, Ohio Fuel Gas 1.

Wells Drilling

Penfield—J. R. Worcester, Hawk & Co. 1.
Columbia—C. L. Burk, Ohio Fuel Gas 1.
O. & M. Brooks, Empire Gas & Fuel 1.
Pittsfield—William Neiding, Hawk & Co. 1
Rigs, 1; wells drilling, 4; total, 5.

WAYNE COUNTY

Wells Drilling

Chester—Alice A. McFadden, Weiser Oil 1.
R. C. McFadden, B. B. Cameron 1.
Cannan—Samuel W. Lee, Butler Bros. 1.
Congress—Charles F. Schutt, Palmer & Geisinger 1.
Baughman—Nancy Wagner, Logan Gas 1.
Sugar Creek—J. H. Tschantz, Logan Gas 1.
Wells drilling, 6.

HOLMES COUNTY

Rigs

Hardy—George Schuler, Palmer & Geisinger 3.
Kilbuck—F. H. & L. E. Garver, East Ohio Gas 2.

Wells Drilling

Hardy—Delpha Nethrow, Empire Gas & Fuel 6.
Monroe—M. G. Bird, Empire Gas & Fuel 1.
William Mrtin, Empire Gas & Fuel 2.
S. R. Williams, East Ohio Gas 2.
Kilbuck—J. W. Moore, East Ohio Gas 1.
Knox—C. E. Kaylor, Arkansas Fuel Oil 1.
W. W. Scott, I. E. O'Hail 1.
John G. Stitzline, East Ohio Gas 1.
Salt Creek—Adam Karsch, Empire Gas & Fuel 1.
Prairie—Jacob E. Miller, The Ohio Oil 1.
Rigs, 2; wells drilling, 10; total, 12.

COSHOCTON COUNTY

Rigs

Monroe—George Snow, Empire Gas & Fuel 1.
Peter Shellhordn, East Ohio Gas 1.
Perry—E. R. Vanwinkle, Preston Oil 4.

Wells Drilling

Monroe—D. & H. Mohler, East Ohio Gas 1.
C. L. Dairymple, East Ohio Gas 1.
D. W. Brillhart, The Logan Gas 1.
Newcastle—Cassingham, Cassingham & Bell Bros. 21.
Rigs, 3; wells drilling, 4; total, 7.

CUYAHOGA COUNTY

Rigs

Olmstead—A. W. Eldred, Hulse & Kuntz 2.

Wells Drilling

Strongville—B. F. Hazlett, John Arthur 1.
H. M. & M. O. Whitney, Empire Gas & Fuel 2.
Olmstead—Geiss, Arthur & Simpson 1.
J. E. Crawford, Arthur & Simpson 1.
A. & A. Dreyer, Groff Bros. 1.
A. W. Sprague, Groff Bros. 1.
W. J. & C. Hamilton, McGrath & Co. 2.
J. R. Hall, The Logan Gas 1.
J. Pulse, John Arthur 1.
D. Renton, John Arthur 1.
A. W. Eldred, Hulse & Kundtz 1.
M. Standen, Hulse & Kundtz 2.
W. D. Camp, H. McClellan 2.
W. D. Camp, B. Harrison & Co. 1.
R. Beranek, J. B. Harrison & Co. 1.
Rigs, 1; wells drilling, 15; total, 16.

SUMMITT COUNTY

Wells Drilling

Franklin—Robert Miller, East Ohio Gas 1.
L. Wolf, East Ohio Gas 1.
Wells drilling, 2.

RICHLAND COUNTY

Well Drilling

Troy—Charles Erhart, W. E. Slaughenhoupt & Co. 1.

STARKE COUNTY

Wells Drilling

Lawrence—James Nighter, Wittmer Property Oil & Gas 1.
Amos Hess, Stoltz & Johnson 1.
Wells drilling, 2.

GUERNSEY COUNTY

Wells Drilling

Monoe—Henry Johnson, East Ohio Gas 1.
Henry McCleary, Russell & Hogan 1.
Coats, Russell Bros. 1.
Elmer Reed, Anson Henry Russell 1.
Shelly Gray, Anson Henry Russell 1.
Edinburn, Birmingham Oil & Gas 5.
Hughes lot, Cambridge parties 1.
Wells drilling, 7.

GALLIA COUNTY

Rigs

Addison—W. H. Reynolds, Gordon Oil 1.
Walnut—Mary L. Spear, The Atha-Webber Co. 1.

Wells Drilling

Walnut—SW¼ Sec. 23, Ralph Bros & Co. 1.
Rigs, 2; wells drilling, 1; otal, 3.

LAWRENCE COUNTY

Well Drilling

Mason—Otis Ellcesson, unknown parties 1.

FAIRFIELD COUNTY

Wells Drilling

Rush Creek—Graffis Heirs, Ruff-Stewart 2.

LIMA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wood	0	0	0	0	1	3	4
Hancock	2	60	0	0	0	4	4
Allen	2	25	0	0	0	4	4
Auglaize	7	123	1	0	0	6	6
Sandusky	3	32	0	0	0	1	1
Mercer	3	56	0	0	0	4	4
Van Wert	1	0	1	0	0	2	2
Seneca	0	0	0	0	3	0	3
Lucas	0	0	0	0	0	3	3
Ottawa	0	0	0	0	0	1	1
Shelby	0	0	0	0	0	1	1
Hardin	1	5	0	0	0	3	3
Wyandot	0	0	0	0	0	1	1
Darke	3	27	0	0	0	3	3
Total Nov...	31	339	2	0	4	34	38
Total Oct. ..	24	318	3	3	3	26	29
Difference .	4	21	0	3	1	8	9

WELLS COMPLETED

WOOD COUNTY

Montgomery — Westerfield - Wirebaugh, Amos & Co. 3..... D. abd
Sarah Inman, Sun Savings B'k 14, 16 abd
A. F. Basey, The Ohio Oil 1..... abd
Portage—M. Klotz, A. F. Carpenter 6.. abd
Mar D. Smith, A. D. Carpenter & Co. 4 abd
Freedom—S. W. Owens, Ohio Oil 2, 5, 8 abd
Troy—Henry Obermeyer, The Ohio Oil 1, 2, 3, 4, 5, 6, 7..... abd

Abandoned 16

HANCOCK COUNTY

Pleasants—John A. Bryan, Bath Township Oil 7 35
Eagle—Henry Deeds, B. Porter & Co. 21 25

Wells completed 2
Production 60

ALLEN COUNTY

Bath—M. E. Roberts, W. W. Bolz 1.... 25
E. W. Prowant, C. A. Peavey 8..... 10
American—B. Miller, The Ohio Fuel 3.. abd
Perry—B. C. Faurot, The Ohio Oil 12.. abd
John Martin, The Ohio Oil 2..... abd

Wells completed 2
Production 35
Abandoned 3

AUGLAIZE COUNTY

Salem—Anna Wemer, The Ohio Oil 8.. 20
H. Miller, Charles Mertz & Co. 1.... 15
Washington—W. V. Dubois, W. E. Cook & Co. 1..... 26
William Doering, W. V. Young & Co. 1 dry
Wayne—M. Gossard, Arthur & Simps n 1 18
Logan—P. Ramge, Wesley Sprague & F. E. Zimmerman, Four-Leaf Oil 3.. 2
St. Marys—Sam Sweigert, Ohio Oil 1 42
abd
abd

Wells completed 7
Production 123
Dry 1
Abandoned 1

SANDUSKY COUNTY

Woodville—Gust Magsig, Gustave Magsig 28 11
Gust Magsig, Gus ave Magsig 29..... 12
Jacob Rolf, The Ohio Oil 4..... abd
George Walter, The Ohio Oil 1..... abd
Washington—John E. Boyer, Lindy Oil 1 10

Wells completed 3
Production 33
Abandoned 1

MERCER COUNTY

Union—T. Fireovid, W. B. Lawrence & Co. 2..... 5
Black Creek—Juesse Ross, Willshire 1 40
Hopewell—Rice Heirs, June Oil 3..... 11

Wells completed 3
Production 56

VAN WERT COUNTY

Washington—Frank Longenmeyer, Syl Metzger 1 ..... dry

SENECA COUNTY

Jackson—Ida & W. J. Peeler, J. W. Fox 11, 12..... abd

Abandoned 2

OTTAWA COUNTY

Harris—Magee & Magee, T. F. Lewis & Co. 2, 3..... abd

Abandoned 2

HARDIN COUNTY

McDonel—Earl Hites, H. E. Schmidt 9 5

DARKE COUNTY

Mississinewa—J. Andrew Cox, J. G. Hoffman 3 12
W. C. Discher, Cole Oil & Gas 19..... 15
W. C. Discher, Cole Oil & Gas 3, 4.... abd

Wells completed 2
Production 27
Abandoned 2

WOOD COUNTY

Rig

Liberty—Ell Stockwell, Mattie S. Rouse 25.

Wells Drilling

Perrysburg—Catherine Smith, George L Haubert & Co. 1.
Webster—Michael Roller, John Geldin & Co. 2.
Troy—Lewis Hille, Lewis Hille 3.
Rig, 1; wells drilling, 3; total, 4.

HANCOCK COUNTY

Wells Drilling

Pleasants—John A. Bryan, Bath Twp. Oil 8.
Por age—Isaac Hart, Mathias Bros. 13.
Eagle—Henry Deeds, B. Porter & Co. 22.
Biglick—C. S. Chambers, Ridge Oil & Gas Synd. 4.
Wells drilling, 4.

ALLEN COUNTY

Bath—John M. Miller, H. F. Kelly & Co. 2.
M. J. Powell, Carmon Oil 1.
N. E. Leedy, W. W. Bolz 1.
C. G. Vore, George Helmkamp, agt., 5.
Wells drilling, 4.

AUGLAIZE COUNTY

Wells Drilling

Salem—O. F. Benton, Stelzer & Boyd 5.
Noble—Joseph Mallory, The Petroleum Producing Co. 1.
Washington—E. Roedeffer, Brookside Oil and Gas 1.
Ben Wierwell, Real Oil 2.
Wayne—Harrison Goddard, Abbott Bros. 1.
Logan—John Howisher, John Fox & Co. 1.
Wells drilling, 6.

SANDUSKY COUNTY

Well Drilling

Washington—John E. Boyer, Lindy Oil 2.

MERCER COUNTY

Wells Drilling

Liberty—Brehm Bros., Celina Pet. 6.
Center—Dayton Fast, W. B. Lawrence 6.
Black Creek—Juesse Ross, Willshire Oil 2.
Hopewell—Sam E. Fetter, A. J. Metzger 4.
Wells drilling, 4.

VAN WERT COUNTY

Wells Drilling

Liberty—John Chilcote, Chilcote O. & G. 3.
Jennings—Phil Louth, J. H. Reynolds & Co. 6.
Wells drilling, 2.

SENECA COUNTY

Rigs

Clinton—Charles Shauley, Geyer & Shaul 2.
Liberty—David Hunker, J. H. Murphy & Son 3.
Andrew Kimmel, The Wiser Oil 1.
Rigs, 3.

LUCAS COUNTY

Wells Drilling

Waterville—U. S. Denman, Waterville Oil & Gas 3.
Monclova—William Black, L. W. Vernlye, trustee, 2.
Wells drilling, 2.

OTTAWA COUNTY

Wells Drilling

Catawba—J. P. Caigney, Catawba O. & G. 1.
Harris—Charles H. Magsig, Gust Magsig & Son 16.
Wells drilling, 2.

SHELBY COUNTY

Cynthian—N. A. Paulis, Ellerman Oil 4.

HARDIN COUNTY

Wells Drilling

McDonel—Mary J. Austine No. 2, Roundhead Oil & Gas 5.
A. R. Zimmerman, Hardin Oil & Gas 10.

WYANDOT COUNTY

Well Drilling

Ridge—Andy Wells, Temple, Henry & Price 2.

DARKE COUNTY

Wells Drilling

Mississinewa—W. C. Discher, Cole Oil & Gas 20.
J. Andrew Cox, J. G. Hoffman 4.
Wells drilling, 2.

INDIANA FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Wells	18	0	1	0	0	0	0
Blackford	0	0	0	0	0	2	2
Jay	2	20	1	0	0	4	4
Grant	0	0	0	0	0	2	2
Randolph	0	0	0	0	0	1	1
Huntington	1	25	0	0	0	1	1
Gibson	7	117	3	0	0	6	6
Pike	5	15	2	1	0	1	1
Davies	2	8	1	0	0	8	8
Sullivan	1	100	0	0	0	7	7
Vigo	0	0	0	0	0	7	7
Allen	1	0	0	1	2	2	4
Knox	1	8	0	0	0	1	1
Dubois	0	0	0	0	0	1	1
Benton	0	0	0	0	0	1	1
Johnson	0	0	0	0	3	0	3
Marion	0	0	0	0	0	1	1
Fountain	0	0	0	0	0	1	1
Martin	0	0	0	0	0	3	3
Monroe	0	0	0	0	0	1	1
Spencer	1	12	0	0	0	1	1
Bartholomew	0	0	0	0	0	1	1
Miami	0	0	0	0	0	1	1
White	0	0	0	0	0	1	1
Decatur	1	0	0	0	1	0	1
Montgomery	0	0	0	0	0	0	0
Lagrange	0	0	0	0	0	1	1
Tipton	1	0	1	0	0	0	0
Henry	0	0	0	0	0	1	1
Shelby	1	3	0	0	0	1	1
Wabash	0	0	0	0	0	1	1
Green	0	0	0	0	0	1	1
Harrison	3	0	1	2	0	2	2
Total Nov...	28	308	10	5	5	62	67
Total Oct. ..	27	370	9	5	10	52	62
Difference .	1	62	1	0	5	10	5

WELLS COMPLETED

WELLS COUNTY

Chester—Bertha Twibell, Lawrenceville Drilling 1 ..... dry

JAY COUNTY

Bear Creek—C. E. Brinkerhoff, Waterloo Oil & Gas 7 20
Knox—Earl Kessler, Knox Oil 1 ..... dry

DELAWARE COUNTY

Delaware—D. Michaels, Athens Gas Corp. 1, 2, 3 ..... abd
C. M. McNelly, Athens Gas Corp. 1, 2. abd

Abandoned 5

HUNTINGTON COUNTY

Near Twin Bridges—Byron Shadle, Leo Wood 1 25

GIBSON COUNTY

Center—John Hussey, Griggs & Co. 1.. dry
J. L. Jenkins, Joe S. Young & Co. 3 dry
C. Carithers, Joe S. Young & Co. 1 .. dry
Washington—C. L. Muncey, Wm. Bell & Co. 1 60
Frank Thompson, Wm. Bell & Co. 2 30
Frank Lindsay, Wm. Bell & Co. 2 .. 25
Dora Edwards, The Ohio Oil 3 2
Margaret Mauck, Gray Morrisey & Co. 1 ..... abd
S. R. Cunningham, The Ohio Oil 1 .. abd
J. W. Eads, The Ohio Oil 1 ..... abd
Patoka—W. F. Knight, The Ohio Oil 2 abd

Wells completed 7
Production 117
Dry 3
Abandoned 4

PIKE COUNTY

Logan—C. Rumble, Wiser Oil 2..... 12
A. Atkinson, Perry C. Andrews 8..... dry
Pink Atkinson, Alex Singer & Co. 1 dry
Madison—N. B. Coffman, The Ohio Oil 9 3
Sarah J. Thomas, The Ohio Oil 7.. abd
Clay—Susan Catts hrs., A. B. Bement 3 ..... gas

Wells completed 5
Production 15
Dry 2
Gas 1
Abandoned 1

DAVIESS COUNTY

Barr—Walker, Ruble & Collier 1 8
O'Brian, Phipps & Blosser 1 ..... dry

Wells completed 2
Production 8
Dry 1

SULLIVAN COUNTY

Fairbanks—J. A. Thomas, Siosi Oil 4 100

ALLEN COUNTY

Monroe—Albert Leuenberger, Unknown parties 1 ..... gas

KNOX COUNTY

Harrison—C. Cooper, Murphy Oil 2 .. 8

SPENCER COUNTY

Jackson—Dr. Hoover, D. D. Flanagan 1 12

DECATUR COUNTY

Greensburg — Stowers, Hoosier Public Utilities 1 ..... gas

TIPTON COUNTY
Duck Creek—Wm. Steele, Nash & Dean 1 ..... dry

SHELBY COUNTY
Hanover—Walter Bass, Brandywine Oil & Gas 4 3

HARRISON COUNTY
Boone—M. W. & Bell Funk, Louisville Gas & Electric 1 ..... dry
Jones Agency, Louisville Gas & Electric 1 ..... gas
Daisey Lemmon, Louisville Gas & Electric 1 ..... gas

Wells completed 2
Dry 1
Gas 1

BLACKFORD COUNTY
Wells Drilling
Washington—Frank Jones, Roberd-Herman Oil Club 1.
Girard, Masters & Swain 1.
Wells drilling, 2.

JAY COUNTY
Wells Drilling
Bear Creek—C. E. Brinkerhoff, Waterloo Oil & Gas 8.
Penn—Wabash Bank, George Northrup 1.
M. Heller, Say & Co. 1.
Pike—Chas. & Wm. Kent, Nick Masters 1.
Wells drilling, 4.

GRANT COUNTY
Wells Drilling
SE part County—Simon Leach, Fowlerton O. & G. 1.
Jefferson—Clyde Fergus, Jacob Wides 1.
Wells drilling, 2.

RANDOLPH COUNTY
Well Drilling
Monroe—Joseph Meeks, Wesner & Co. 1.

HUNTINGTON COUNTY
Wells Drilling
Near Twin Bridges—Byron Shadle, Leo Wood 2.

GIBSON COUNTY
Wells Drilling
Center—Mgdt, Hollingsworth, Jos. S. Young & Co. 5.
Washington—J. E. Zimmerman, Wm. Bell & Co. 2.
Frank Thompson, Wm. Bell & Co. 3.
C. L. Muncey, Wm. Bell & Co. 2.
George Henring, H. C. Darby & Co. 1.
Montgomery—John Enlow, Enlow & Co. 1.
Wells drilling, 6.

PIKE COUNTY
Wells Drilling
Logan—Will Miley, J. Morrisey & Co. 1.

DAVIESS COUNTY
Wells Drilling
Veale—Emrick, Home Oil 1.
Wurtz, Home Oil 2.
Tilman Gaither, Hartman & Sargent 2.
J. E. Peek, Hartman & Sargent 2.
Alonzo Veale, Hartman & Sargent 2.
Allison, T. H. Danver 3.
Reeves—Pat Nolan, Bell Bros. 1.
SE Part County—Robinson & Co. 1.
Wells drilling, 8.

SULLIVAN COUNTY
Wells Drilling
Fairbanks—J. A. Thomas, Sioux Oil Corp 5, 6.
Nora Williams, Twin Creek Oil 1.
J. T. Mayfield, Bays & Co. 1.
J. F. Harris, Hill & Co. 1.
Chas. Scott, Baldridge & Whittacre 1.
Linton—Mary J. McDonald, J. B. Miller & Co. 1.
Wells drilling, 7.

VIGO COUNTY
Wells Drilling
Prairie Creek—Wm. Riggs, Sioux Oil Corp. 5, 6, 7, 8, 9, 10.
W. F. Collins, The Ohio Oil 1.
Wells drilling, 7.

ALLEN COUNTY
Rigs
Maumee—D. Helmke, Robinson Bros. & Innis 3.
J. F. Butt, Estes, Manton & Co. 3.
Wells Drilling
Maumee—C. Reckaway, Cyrus Shoemaker & Co. 1.
J. C. Garber, Jess Cochran & Co. 1.
Rigs, 2; wells drilling, 2; total, 4.

KNOX COUNTY
Well Drilling
Posey—John Keyser, Western Gulf Oil 1.

DUBOIS COUNTY
Well Drilling
Cass—Wm. Meissner, Wheeler & Co. 1.

BENTON COUNTY
Well Drilling
Near Oliva—Jess Voliva, Chicago parties 1.

JOHNSON COUNTY
Rigs
Near Franklin—McQuiston, Universal Dev. 1.
Wm. Lost, Franklin parties 1.
NE part County—Means, unknown parties 1.
Rigs, 3.

MARION COUNTY
Well Drilling
South of Acton—Unknown parties 1.

FOUNTAIN COUNTY
Well Drilling
Troy—Wm. B. Coffing, Pennsylvania parties 1.

MARTIN COUNTY
Wells Drilling
Loogoottee—Kenner Dilley, Loogoottee L. & Heat 2.
McConn, Ruark & Co. 1.
Barker—M. Hart, B. J. Dimming 1.
Wells drilling, 3.

MONROE COUNTY
Well Drilling
Polk—Bloomington-Morgan, Saddle Creek Oil 1.

SPENCER COUNTY
Well Drilling
Jackson—Hoover & Premier Oil 1.

BARTHOLOMEW COUNTY
Well Drilling
Ohio—G. Lee, Granville Lee 2.

MIAMI COUNTY
Well Drilling
Near Converse—Unknown parties 1.

WHITE COUNTY
Well Drilling
Near Monon—Thos. Spencer, Conrad Fatland 1.

MONTGOMERY COUNTY
Well Drilling
New Market—W. L. Lee, W. S. Peck & Co. 1.

LAGRANGE COUNTY
Well Drilling
Clay—J. W. Crisler, J. W. Hunt & Co. 1.

HENRY COUNTY
Well Drilling
Knightstown—Kahn, Knightstown Gas 1.

SHELBY COUNTY
Well Drilling
Near Morristown—Unknown parties 1.

WABASH COUNTY
Well Drilling
Largo—Frank Lawson & Co. 1.

GREEN COUNTY
Well Drilling
Goose Pond—Ogle, Keystone Oil 1.

HARRISON COUNTY
Well Drilling
Boone—Joe Dicker, Ziegler & Co. 4.
Dogwood—Mayhan & Co. 1.
Wells drilling, 2.

ILLINOIS FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Clark	4	36	2	0	0	4	4
Cumberland	0	0	0	0	0	2	2
Crawford	6	44	2	0	0	5	5
Lawrence	2	50	0	0	0	6	6
Wabash	7	85	3	0	3	6	9
Morgan	0	0	0	0	0	1	1
Marshall	0	0	0	0	0	1	1
Macon	0	0	0	0	0	1	1
Madison	0	0	0	0	0	2	2
Shelby	0	0	0	0	0	1	1
St. Clair	0	0	0	0	0	1	1
Tazwell	0	0	0	0	0	1	1
Total Nov.	19	215	7	0	3	31	34
Total Oct.	15	107	8	1	0	27	27
Difference	4	108	1	1	3	4	7

WELLS COMPLETED
CLARK COUNTY
Casey—Lou Callahan, W. C. McBride, Inc. 1 18
William Carper, William Carper & Co. 1 ..... dry
Johnson—Dr. Claypool, W. C. McBride, Inc. 1 ..... dry
Martinsville—Oral Cavolt, Rhodes & Keith 1 18

Wells completed 4
Production 36
Dry 2

CRAWFORD COUNTY
Martin—A. W. Mann, Frost Oil 7 4
Montgomery—J. P. Sager, Thomas Flynn 1 ..... dry
Prairie—Emma Price, Porterville Oil 1 20
A. E. Joseph, C. C. Watson & Co. 9 5
Licking—P. A. Matheney, Claud Sutherland & Co. 1 ..... dry
Southwest—J. C. Martin, Dark Bend Oil 1 15

Wells completed 6
Production 44
Dry 2

LAWRENCE COUNTY
Dennison—Smith-Neely, The Ohio Oil 39 35
Lawrence—J. A. Seed No. 1, The Ohio Oil 16 ..... abd
Bridgeport—Jas. Lewis No. 2, The Ohio Oil 11 ..... abd
Petty—Wm. Ross, Silurian Oil 7 15

Wells completed 2
Production 50
Abandoned 2

WABASH COUNTY
Wabash—John Breen, Breen Oil 7 30
Joe Keyser, Joe S. Young & Co. 7 .. 10
Lucy Courter, G. D. Toomey & Co. 15 30
Howard Armstrong, J. W. Whiteside & Co. 4 ..... dry
A. A. Gher, Koker Creek Oil 3 ..... dry
C. D. Banks, Dewees & Co. 1 ..... dry
Holson-Dorney, Max Oil 9 15

Wells completed 7
Production 85
Dry 3

CLARK COUNTY
Wells Drilling
Johnson—Norman Bennett, W. C. McBride, Inc. 1.
E. McFarland, W. C. McBride, Inc. 1.
Westfield—R. C. Wilhoit, Mann & Huber 1.
Darwin—Martin Wentz, unknown parties 1.
Wells drilling, 4.

CUMBERLAND COUNTY
Wells Drilling
Sumpter—S. Conel, Shrider & Co. 1.
Union—S. S. Yanaway, The Ohio Oil 31.
Wells drilling, 2.

CRAWFORD COUNTY
Wells Drilling
Montgomery—J. W. Armstrong, Hartman & Sargent 1.
J. F. Higgins, L. C. McDowell & Co. 1.
J. D. Ravelle, John Phipps 1.
Licking—S. Randolph, M. E. Harris & Co. 6.
Lamotte—C. H. Apple, Frog Pond Oil 1.
Wells drilling, 5.

LAWRENCE COUNTY
Wells Drilling
Dennison—Laura Jenner, The Ohio Oil 20.
Sarah E. Grayson, The Ohio Oil 3.
P. S. VanWay, The Ohio Oil 9.
Oliver Pond, Phipps, Blosser & Co. 1.
Lawrence—J. T. Riggs No. 3, The Ohio Oil 15.
Lukin—B. Eason, Frank Ellis 1.
Wells drilling, 6.

WABASH COUNTY
Rigs
Wabash—Jesse Cisil, C. E. Bothwell 5, L. G. Stillwell, Breen Oil 3.
Friendsville—C. R. Schrader, Miller & Karns 1.
Wells Drilling
Wabash—Wm. Price, Miller & Karns 2.
S. E. Pritchett, Foreman & Co. 1.
M. Madden, Adams Corner Oil 13.
Friendsville—J. W. Andrews, Smith & Co. 1.
O. A. Price, J. S. Young & Co. 2.
George Couch, Risley & Co. 1.
Rigs, 3; wells drilling, 6; total, 9.

MORGAN COUNTY
Well Drilling
Jacksonville—Travis, Timberlake & Higgins 10.

MARSHALL COUNTY
Well Drilling
Near Toluca—R. R. Irwin 1.

MACON COUNTY
Well Drilling
Hickory Point—A. Parrish, Powers & Co. 1.

MADISON COUNTY
Well Drilling
Namcoki—Goodrich Bros., Goodrich Bros. 1.
Pine Oak—Gusaweiller, Assembly Oil & Gas 1.
Wells drilling, 2.

SHELBY COUNTY
Wells Drilling
Holland—Wm. Prosser, A. L. Ginter 1.

ST. CLAIR COUNTY
Well Drilling
Sec. 24-12-8w—E. S. Mason & Co. 1.

TAZWELL COUNTY
Well Drilling
Sec. 2-26-24w—J. L. Palmer & Co. 1.

MICHIGAN FIELDS

Summary of Field Operations

	Comp.	Prod.	Dry	Gas	Rigs	Drg.	Ttl.
Saginaw	3	80	0	0	0	7	7
Van Buren	1	0	1	0	0	0	0
Shiawassee	0	0	0	0	0	2	2
Livingstone	0	0	0	0	0	1	1
Muskegon	0	0	0	0	0	1	1
Crawford	0	0	0	0	0	1	1
Charlevoix	0	0	0	0	0	1	1
Macomb	0	0	0	0	0	1	1
Midland	0	0	0	0	0	1	1
Roscommons	0	0	0	0	0	1	1
Arenac	0	0	0	0	0	1	1
Sanilac	0	0	0	0	0	1	1
Isabelle	0	0	0	0	0	1	1
Alpena	0	0	0	0	0	1	1
Total Nov.	4	80	1	0	0	20	20
Total Oct.	39	275	16	2	2	21	23
Difference	35	195	15	2	2	1	3

WELLS COMPLETED
SAGINAW COUNTY
Saginaw—Pere Marquett, Sun Oil 4 .. 20
Phelan Street, Crowley & Carr 1 .. 40
Schwinck, Schwinck Oil 4 20

Wells completed 3
Production 80

VAN BUREN COUNTY
Decatur—A. D. Vought, Wert Oil & Gas 2 ..... dry

SAGINAW COUNTY
Wells Drilling
Saginaw—Householder, F. W. Higginbotham trustee 1.
Campau, Jack Hendricks & Co. 4.
Eddy Estate, Saginaw Prospecting 7.
Wickes, Wickes Bros. 4.
Pere Marquette, The Sun Oil 5.
Swan Creek—O. K. Railey, E. M. Miller 1.
Chesaning—George Harris, Jack Hendricks & Co. 1.
Wells drilling, 7.

SHIAWASSEE COUNTY
Wells Drilling
Owosso—Gallagher-Scully, The Sun Oil 1.
Fairfield—Unknown, J. A. Walsh 1.
Wells drilling, 2.

LIVINGSTONE COUNTY
Well Drilling
Conway—C. A. Smith, J. T. Norris 1.

MUSKEGON COUNTY
Well Drilling
Muskegon—Muskegon Oil Corp. 2.

CRAWFORD COUNTY
Well Drilling
Near Grayling—Grayling Development 1.

CHARLEVOIX COUNTY
Well Drilling
Near Charlevoix—Trenton, Unknown 1.

MACOMB COUNTY
Well Drilling
Near Anchor Bay—Anchor Bay Oil 1.

MIDLAND COUNTY
Well Drilling
Greendale—J. B. Raynor, The Pure Oil 1.

ROSCOMMONS COUNTY
Well Drilling
East of Roscommons—Grayling Dev. 1.

ARENAC COUNTY
Well Drilling
Near Sterling—Vorhees & Sovereign 1.

SANILAC COUNTY
Well Drilling
Minden—Section 17, Frank Obee 1.

ISABELLE COUNTY
Well Drilling
Chippewa—Section 12, J. & S. Development 1.

ALPENA COUNTY
Well Drilling
Alpena—Unknown, William Bradley 1.

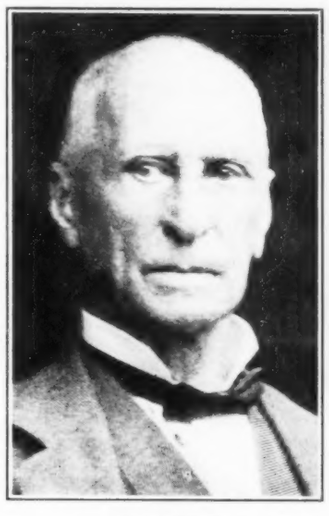
Franklin Veteran Was First to Use Steam in Refining

Although thousands of newspaper readers know that the medal offered by the International Petroleum Exposition in Tulsa last September for the oldest oil man was awarded to Jacob Sheasley of Franklin, Pa., few know that Mr. Sheasley, still actively engaged in business at 93, was the first one in the refining business to introduce steam into the still in refining oil.

The medal awarded to Mr. Sheasley as the oldest oil man was presented to him recently under the auspices of the Franklin Chamber of Commerce, which had arranged an interesting program. Gen. Charles Miller, 84, former president of the Galena Oil Works,, and Daniel Grimm, 89, another veteran oil man, were among those who attended the presentation.

Mr. Sheasley had just attained his majority when Samuel M. Kier built the first commercial oil refinery near Tarentum, Pa., to refine petroleum recovered in small quantities from salt water wells. He was 25 when Colonel Drake put down the first oil well near Titusville, Pa. He was about 30 when he entered the oil business himself. Previously he had learned the wagon maker's trade and had been in the lumber business. Two wells acquired by Mr. Sheasley early in the sixties are producing still and are owned by his son, C. H. Sheasley, president of the Franklin Valveless Engine Co.

Besides his interest in the production of oil in Pennsylvania, West Virginia and Ohio, in which states he still holds producing properties, Mr. Sheasley was a pioneer in the refining branch of the business, owning the Keystone Lubricating Oil Works at Rocky Grove, on the outskirts of Franklin. When he first tried the experiment of running steam into the still in the refining process the workmen hid behind near-by rocks and



Jacob Sheasley

trees, uncertain as to what might happen and fearful of an explosion. There was no explosion and the experiment marked an important step forward in refining practice.

Mr. Sheasley also was the first oil driller to put in a string of casing to shut off the fresh water. This was on the Cochranton farm, between Franklin and Meadville. Up to that time all holes had been drilled wet and seed bags had been used. He introduced casing as a regular part of the drilling operation and drilled the first well using it on the Flats at Parkers Landing on the Allegheny River between Franklin and Pittsburgh.

ELECTRICAL HEATERS USED TO HEAT OIL

OIL CITY, Pa., Dec. 12.—The final step has been taken in the complete electrification of F. R. Bellows oil property at Reno. For several years one "power" on this property has been operated by electric drive. This consists of a 10-horsepower motor with belt and pulley speed reduction. Fifteen wells are operated from this power and it requires the full 10-horsepower of the motor to pump the wells.

The "power" which has just been electrified consists of 24 wells. The new installation utilizes a 10-horsepower motor which is connected to the pumping equipment by means of a link belt silent chain drive which operates at an efficiency of more than 98 per cent. The high efficiency of this installation makes it possible to pump the 24 wells with less than 7 horsepower.

Another interesting electrical development on the Bellows property is that for heating the oil before pumping it into the pipe line. This is being done by means of what are known as immersion electric heaters. This is a standard make of electrical equipment for heating liquids. The heating units are immersed in the oil and the oil temperature is increased to the desired value, when the electric current is turned on.

So far as known, this is the only oil production in the world where oil heating is required which is completely electrified.

Oklahoma-Kansas and Eastern Pipe Line Report

OKLAHOMA KANSAS

Pipe Line Statement for October

Runs

	Month	Dy. Av.
*Prairie Pipe Line Co.	4,650,000	150,000
Gulf Pipe Line Co.	1,529,539	49,340
Texas Pipe Line Co.	1,106,724	35,701
Magnolia Petroleum Co.	2,550,386	82,271
Empire Pipe Line Co.	1,473,318	47,526
Cosden Pipe Line Co.	1,138,647	36,731
Sinclair Pipe Line Co.	2,986,633	96,343
Oklahoma Pipe Line Co.	3,893,416	125,594
Other lines	8,401,000	271,000
Total October	27,729,663	894,506
Total September	27,436,777	914,558
Difference	292,886	20,052

Shipments

†Prairie Pipe Line Co.	5,156,293	166,332
Gulf Pipe Line Co.	1,291,667	35,763
Texas Pipe Line Co.	1,037,348	33,463
Magnolia Petroleum Co.	1,818,809	58,671
Empire Pipe Line Co.	1,561,078	50,357
Cosden Pipe Line Co.	1,020,709	32,926
†Sinclair Pipe Line Co.	2,743,407	88,497
Oklahoma P. L. Co.	3,838,711	123,829
Other lines	7,750,000	250,000
Total October	26,128,011	842,838
Total September	25,406,211	846,874
Difference	721,800	4,036

Stocks

*Prairie Oil & Gas Co.	30,800,000
*Prairie Pipe Line Co.	2,000,000
Gulf Pipe Line and Gypsy Oil Co.	9,880,890
The Texas Company	5,131,914
Magnolia Petroleum Co.	6,753,353
Empire Pipe Line Co.	4,482,898
Cosden Pipe Line Co.	3,328,315
*Sinclair Crude Oil Pur. Co.	20,250,000
Carter Oil Co.	16,103,950
Oklahoma P. L. Co.	2,717,330
*Other lines	10,000,000
Total October	111,418,650
Total September	103,566,085
Difference	1,852,565

*Estimated. †Prairie Pipe Line shipments include Texas crude and Sinclair Pipe Line shipments include Wyoming, Texas crude.

Note: Stocks do not include approximately 5,200,000 bbls. of crude oil held in storage on private tank farms and leases and approximately 1,800,000 bbls. of Texas Panhandle crude in storage in Oklahoma and Kansas.

EASTERN PIPE LINES

Runs From Wells

In the following table will be found the regular receipts from wells by various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for August and September:

	Aug. '27	Sept. '27
National Transit	146,479.36	148,770.19
S. W. Pa. P. L.	86,548.23	85,669.19
Eureka P. L.	395,237.23	386,201.76
Buckeye P. L. (Macksburg)	343,331.35	324,616.49
Buckeye P. L. (Cleveland)	11,953.23	11,430.57
Buckeye P. L. (Lima, etc.)	129,887.26	124,867.84
Indiana P. L.	8,905.59	9,150.58
Cumberland P. L.	267,515.04	245,038.71
N. Y. Transit	25,028.15	23,882.06
Tidewater P. L.	197,502.70	188,881.97
Pure Oil	164,866.70	159,336.57
Emery P. L.	59,569.14	57,479.57
Paragon Dev.	30,553.66	34,062.15
Pittsburgh P. L.	4,824.41	4,956.74
Stoll Oil Ref.	15,831.15	15,215.87
Total	1,886,983.19	1,808,560.83
Daily average	60,870.42	60,285.39

Note—Indian Refining Co. also reported other receipts of 375,293.93 bbls. Paragon Refining Co. had other receipts of 202,741.28 bbls. Paragon Development had other receipts of 24,753.46 bbls.

Petroleum Deliveries

The following tables exhibit the shipments or regular diliveries of various pipe lines in New York, Pennsylvania, West Virginia, Ohio, Kentucky and Indiana for August and September:

	Aug. '27	Sept. '27
National Transit	344,799.78	352,363.94
S. W. Pa. P. L.	343,310.98	352,236.47
Eureka P. L.	198,756.14	181,691.67
Buckeye P. L. (Macksburg)	153,542.57	144,078.47
Buckeye P. L. (Cleveland)	727.48	971.43
Buckeye P. L. (Lima, etc.)	748,093.86	861,075.43
Indiana P. L.	868,709.30	840,001.40
Cumberland P. L.	150,233.43	141,790.84
N. Y. Transit	389,844.19	316,049.51
Northern P. L.	196,321.58	188,878.47
Tidewater P. L.	150,113.65	133,584.94
Pure Oil	205,912.46	176,414.97
Emery P. L.	54,557.91	59,422.76
Paragon Ref.	177,675.03	202,284.12
Indian Ref.	379,066.52	343,722.80
Paragon Dev.	31,192.30	26,388.83
Pittsburgh P. L.	5,395.27	5,410.12
Total	4,228,243.43	4,326,377.16
Daily average	136,653.01	144,212.57

Gross Stocks

The gross stocks held by various pipe lines in the oil producing sections of New York, Pennsylvania, West Virginia, Ohio, Indiana and Kentucky at the close of August and September:

	Aug. '27	Sept. '27
National Transit	1,129,180.77	1,154,733.90
S. W. Pa. P. L.	683,536.32	648,789.30
Eureka P. L.	1,949,986.99	1,803,085.25
Buckeye P. L. (Macksburg)	416,688.27	421,560.39
Buckeye P. L. (Cleveland)	39,918.38	50,809.14
Buckeye P. L. (Lima, etc.)	4,668,115.54	4,829,681.04
Indiana P. L.	620,873.22	621,233.99
Cumberland P. L.	591,842.81	614,472.24
Southern P. L.	429,471.58	466,091.05
N. Y. Transit	460,932.97	507,169.10
Northern P. L.	470,103.63	534,035.12
Pure Oil	396,429.71	400,830.33
Emery P. L.	13,506.50	12,401.24
Paragon Ref.	15,686.20	15,880.76
Indian Ref.	92,159.84	122,910.52
Paragon Dev.	6,821.29	6,146.06
Pittsburgh P. L.	3,864.26	2,978.00
Total	11,989,115.18	12,212,716.43
Increase	535,987.31	223,601.25

Grades of Oil

The following table shows the amount of the different grades of oil held by the eastern pipe lines at the close of August and September, showing the gross stocks of the above fields:

	Aug. '27	Sept. '27
Pennsylvania	4,238,474.19	4,235,065.02
Lima	1,018,062.71	1,078,066.52
Kentucky	1,134,529.10	1,144,347.96
Mid-Continent	5,531,964.28	5,691,414.41
Illinois	66,894.90	63,822.51
Total	11,989,115.18	12,212,716.43

Daily Average Runs

The following table shows the daily average runs of the Pennsylvania, Lima and Kentucky oil fields for the past four years:

	1924	1925	1926	1927
Jan.	62,638	60,831	55,630	56,209
Feb.	65,023	60,606	60,394	61,298
Mar.	68,721	60,575	61,844	62,247
April	71,058	63,062	63,019	60,337
May	63,942	59,217	60,580	60,284
June	63,230	61,270	64,121	62,757
July	64,298	62,639	63,206	58,574
Aug.	59,942	59,686	61,816	60,870
Sept.	62,930	62,610	64,039	60,285
Oct.	64,976	60,995	62,704	.....
Nov.	58,252	59,360	61,774	.....
Dec.	55,814	57,974	58,756	.....

Daily Average Shipments

The following table gives daily average shipments from the Pennsylvania, Lima and other fields for the past four years:

	1924	1925	1926	1927
Jan.	146,518	157,889	156,056	141,227
Feb.	148,732	160,892	159,488	138,624
Mar.	147,078	154,691	159,239	133,777
April	147,611	151,429	152,371	140,227
May	134,997	146,995	150,998	144,894
June	143,010	149,467	160,267	149,773
July	134,187	161,338	160,946	151,350
Aug.	123,120	161,730	151,929	138,652
Sept.	127,325	156,719	158,915	144,218
Oct.	123,170	145,388	151,132	.....
Nov.	124,409	144,552	152,668	.....
Dec.	151,292	159,162	156,428	.....

Gross Stocks

In the following table will be found the gross stocks of the various lines of the Pennsylvania, Lima and Kentucky oil fields, including oil received from other lines at the close of each month for the past three years:

	1925	1926	1927
Jan.	11,353,276	9,959,170	9,718,801
Feb.	11,192,924	9,579,354	10,119,161
Mar.	11,158,297	9,438,292	10,794,044
April	11,062,082	9,805,851	11,112,296
May	11,207,562	9,531,757	11,359,381
June	11,093,796	9,585,904	11,493,471
July	11,067,453	9,734,687	11,453,132
Aug.	10,974,481	9,668,947	11,989,115
Sept.	10,781,753	9,433,733	12,212,716
Oct.	11,086,850	9,269,806	.....
Nov.	11,068,158	9,257,667	.....
Dec.	10,458,445	9,154,513	.....

Franklin Pipe Line Co.

The following table exhibits the condition of the Franklin Pipe Line at the close of business for the months named and not counted in the stocks and averages reported above.

	Runs	Shipments	Stocks
1926—			
Sept.	2,788.18	3,373.06	13,985.43
Oct.	2,991.86	2,307.75	14,671.24
Nov.	2,810.60	1,664.55	15,817.31
Dec.	2,847.52	5,561.11	13,103.72
1927—			
Jan.	2,641.54	1,470.42	14,274.84
Feb.	2,764.30	1,082.82	15,956.31
Mar.	2,587.20	1,378.56	16,664.96
April	2,834.23	1,512.65	17,986.54
May	2,768.47	539.29	20,215.73
June	2,946.29	664.40	22,497.61
July	3,153.39	1,276.61	24,374.39
Aug.	3,057.89	3,713.11	18,719.17
Sept.	3,309.56	2,656.48	19,372.25

The Illinois Field

The following table gives the report of the Illinois Pipe Line Co. in Illinois:

Gross stocks, October 1	2,062,018.95
Other receipts	243,655.75
Runs from wells	591,069.13
Regular deliveries	405,432.76
Other deliveries	483,059.11

The amount of Illinois oil run by the Tidewater Pipe Co. in September was 28,-580.36 bbls. and deliveries were 27,779.79 bbls. Adding these figures to those of the Illinois Pipe Line Co. makes the runs and deliveries as follows:

1926—	Runs	Deliveries
September	688,798.66	616,082.05
October	681,648.96	531,467.39
November	651,263.33	498,439.27
December	668,909.58	587,947.61
1927—		
January	621,421.03	530,085.91
February	595,831.16	476,950.71
March	727,593.91	554,947.43
April	593,225.97	444,818.45
May	728,759.40	543,192.01
June	640,976.35	532,217.71
July	613,901.30	484,902.53
August	651,276.40	529,331.37
September	619,589.49	433,212.43

Tidewater Pipe Co., Ltd., also delivered in September 218,229.09 bbls. of Oklahoma oil.

AVERAGE DAILY RECEIPTS OF CALIFORNIA OIL AT ATLANTIC AND GULF COAST PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS						Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans	Port Arthur	Sabine Pass	Tampa	Total	
June	25,567	11,233	48,333	17,367	17,367	120,367	.....	.....	.....	.....	.....	.....	120,367
July	13,484	17,390	33,065	9,139	5,451	78,419	.....	.....	.....	.....	.....	966	79,385
August	18,516	3,065	48,139	17,323	26,000	113,033	.....	.....	.....	.....	.....	.....	113,033
September	23,033	6,967	51,400	14,567	19,533	115,500	.....	.....	.....	.....	.....	.....	115,500
October	30,936	4,355	47,968	14,139	14,367	101,774	.....	.....	.....	.....	.....	.....	101,774

AVERAGE DAILY IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

Average bbls. per day—	ATLANTIC PORTS						GULF COAST PORTS						Total All Ports
	Baltimore	Boston	New York	Philadelphia	Others	Total	Galveston	New Orleans	Port Arthur	Sabine Pass	Tampa	Total	
June	18,167	9,700	83,867	10,900	16,567	139,200	2,000	31,800	.....	.....	.....	33,800	173,000
July	22,226	10,387	80,193	7,193	38,710	158,719	3,226	25,065	806	.....	.....	29,096	187,806
August	19,323	9,032	80,303	14,258	31,821	156,387	2,097	21,161	.....	.....	.....	23,258	178,645
September	28,033	11,433	55,500	12,800	37,700	175,467	5,667	19,333	.....	.....	3,600	28,500	203,967
October	26,064	12,097	79,355	3,333	34,097	156,451	1,613	19,323	806	1,871	.....	23,613	180,064

GROSS PRODUCTION OF THE UNITED STATES FOR 12 MONTHS

(IN BARRELS)

		California	Oklahoma	Texas	Kansas	Arkansas	Louisiana	Rocky Mountains	Eastern Fields	Total
1926—										
November:	Month	19,173,128	16,876,950	18,593,160	3,693,490	4,299,480	2,054,911	2,842,587	3,216,000	70,649,706
	Daily average	639,104	562,565	619,772	123,116	143,316	68,497	94,752	107,200	2,354,990
December:	Month	20,276,950	17,882,908	19,753,591	3,654,156	4,266,189	2,018,734	2,658,301	3,313,000	73,823,829
	Daily average	654,095	576,868	637,212	117,876	137,619	65,120	85,752	106,871	2,381,414
1927—										
January:	Month	20,184,872	19,035,426	18,605,363	3,769,879	4,076,469	1,905,570	2,620,303	3,332,500	73,530,382
	Daily average	651,125	614,046	600,173	121,609	131,499	61,470	84,203	107,500	2,371,948
February	Month	17,982,711	19,752,348	16,483,712	3,562,076	3,574,256	1,784,104	2,385,135	3,007,200	68,321,542
	Daily average	642,240	705,441	588,704	119,717	127,652	63,718	85,183	107,400	2,440,057
March:	Month	19,835,724	22,480,921	18,232,617	3,675,143	3,863,920	2,032,982	2,476,798	3,335,800	75,923,906
	Daily average	639,862	725,191	588,149	118,553	124,320	65,580	79,574	105,100	2,449,158
April:	Month	19,493,825	22,208,130	17,801,140	3,516,930	3,378,240	1,994,330	2,615,770	3,474,000	74,482,365
	Daily average	648,870	740,271	593,371	117,231	112,608	66,491	87,193	115,800	2,482,745
May:	Month	19,506,054	23,258,463	19,539,082	3,704,314	3,493,669	1,936,175	2,742,588	3,467,000	77,646,346
	Daily average	629,238	750,273	630,293	119,494	112,699	62,425	88,471	111,839	2,504,721
June:	Month	19,181,443	22,530,330	18,299,810	3,437,580	3,365,760	1,880,820	2,592,437	3,330,000	75,018,179
	Daily average	639,381	761,011	613,327	114,586	112,192	62,694	86,414	111,000	2,500,606
July:	Month	19,819,021	26,522,546	17,607,194	3,454,082	3,406,683	2,279,405	2,635,607	3,373,000	78,597,538
	Daily average	623,194	855,566	567,974	111,422	109,893	73,529	85,020	108,806	2,535,401
August:	Month	19,379,131	26,283,350	17,715,229	3,424,570	3,242,600	2,199,905	2,530,065	3,608,400	78,283,250
	Daily average	621,907	847,850	571,459	110,470	104,600	70,964	81,615	116,400	2,525,266
September:	Month	19,064,500	24,111,660	18,322,800	3,242,240	3,022,970	3,027,070	2,228,609	3,465,000	75,604,849
	Daily average	635,483	803,722	610,760	111,408	101,099	67,569	74,620	115,500	2,516,828
October:	Month	19,448,893	24,223,803	19,303,136	3,609,149	3,117,300	3,056,159	2,270,905	3,565,000	77,394,365
	Daily average	627,384	781,413	619,456	113,199	100,555	66,339	73,256	115,000	2,496,601
Total 12 months		233,746,351	265,467,435	220,256,515	43,483,639	43,107,536	24,169,165	30,699,005	40,486,500	899,376,336

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Total
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PROGRESS

IN the field of *transportation* nothing indicates progress more clearly than the time required for a message to travel from New York to Boston: In 1789, by coach, 7 *days;* in 1927, by air mail, 9 *hours.*

In the field of *oil-industry pumps,* nothing indicates progress more clearly than a comparison of present-day models with those in use before GASO entered the field.

GASO Pumps are unmatched for oil-industry service because they are designed exclusively for oil-industry use. The GASO organization lives in the heart of the industry; knows the conditions under which the pumps must operate; concentrates its energies on the fulfillment of oil-industry needs.

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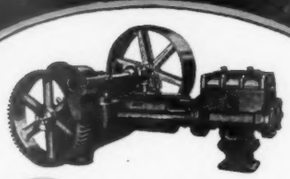
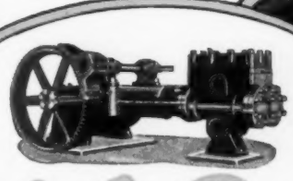


GASO GEAR-DRIVEN PUMPS
An Important Factor in Gaso Leadership

These pumps are carefully designed, strongly made and thoroughly inspected before shipment. No. 501 (at left) is a Horizontal Duplex Piston Pump designed for 200 to 800 lb. working pressure. It has large, direct, unobstructed fluid passages and valve areas.

No. 508 (at right) is an inter-changeable liner type of Gaso Duplex Piston Pump. Quickly changeable from large-capacity, low-pressure service to small-capacity, high-pressure service. Has fewer but stronger parts.



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for every oil industry need

Yes Sir!

We use a TOOL JOINT on every joint of pipe~~

The above picture shows a string of 6"

HUGHES TOOL JOINTS

on the Cudjo lease — Searight field, Seminole, Oklahoma. The men are: Grover Simpson, Field Manager, and Virgil Wulz, Tool Pusher, for Loffland Brothers, Contractors.

~ ∫ ~

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